



**CERMES Technical Report N° 17**

# **Marine Ecosystem-Based Management in the Caribbean: an essential component of Principled Ocean Governance**

## **Report of the Caribbean Regional Symposium**

University of the West Indies, Cave Hill Campus, Barbados, December 10-12, 2008

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## **ABSTRACT**

### **Marine Ecosystem-Based Management in the Caribbean: an essential component of Principled Ocean Governance**

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The Regional Symposium on 'Marine Ecosystem-Based Management in the Caribbean: an essential component of Principled Ocean Governance' was held at the University of the West Indies, Cave Hill Campus, Barbados, December 10-12, 2008. Participants from throughout the region and beyond and from a diversity of occupational backgrounds came together in a facilitated process to explore principles, a vision and strategic directions for Marine Ecosystem-Based Management in the Caribbean. Participants first ranked principles resulting in a list that was considered as reflecting the priorities necessary to the implement EBM and as such, principled ocean governance, for the Caribbean. They then contributed their knowledge and experience to develop shared visions in four areas: pelagic ecosystems, reef ecosystems, continental shelf ecosystems and governance. Subsequently, they discussed the strategic actions that would be required to achieve these visions. The network of strategic directions that emerged is a synthesis of the outputs of the symposium. It reflects the strategies that the symposium participants thought were most critical for moving towards marine EBM in the Caribbean. There is a strong focus on the human aspects of EBM. Stakeholder involvement, social justice, enhancing livelihoods, strong institutions and regional collaboration appear to be the most significant areas in which attention should be focused to achieve marine EBM in the Caribbean.

## **ACKNOWLEDGEMENTS**

We would like to thank the Nippon Foundation of Japan for its support through the PROGOVNET Project. Without their ongoing commitment towards advancing principled ocean governance on a global scale, this important Symposium in the Caribbean would not have taken place. We would also like to thank Dalhousie University through its Marine Affairs Program and the Marine Environmental Law Institute and the International Ocean Institute for their support. The University of the West Indies (UWI), Cave Hill Campus also provided support through its Faculty of Pure and Applied Sciences and the Centre for Resource Management and Environmental Studies. The Office of Research of the UWI also supported the participation of some participants. Other participants came at their own costs and we wish to acknowledge The Nature Conservancy, the United Nations Development Program and the Food and Agriculture Organization of the United Nations in this regard. We also wish to thank all of the participants who gave up a week of their valuable time to come and contribute their knowledge and experience and especially those who wrote papers and gave presentations. Finally, we would like to thank all the staff, students and interns at CERMES who contributed to make the symposium a success.

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## **1 INTRODUCTION**

Countries of the Wider Caribbean have committed to principled ocean governance through several multilateral environmental and fisheries agreements at both the regional (e.g. Cartagena Convention, SPAW Protocol) and international level (e.g. Convention on Biological Diversity, United Nations Fish Stocks Agreement, FAO Code of Conduct for Responsible Fishing). They have also committed to the 2002 World Summit on Sustainable Development (WSSD) targets for fisheries and biodiversity conservation. However, the ongoing challenge is to put in place the measures required to give effect to these principles at local, national and regional levels. The Ecosystem Based Management/Ecosystem Approach to Fisheries (EBM/EAF) is prominent in these agreements and in the WSSD targets. Implementing an ecosystem-wide approach that encompasses both the human and natural dimensions of ecosystems is an essential component of principled ocean governance. Furthermore, it gives prominence to the principles of sustainability, participation and precaution that are needed to effectively govern the world's oceans.

The Caribbean Large Marine Ecosystem (CLME) Project, a multi-year initiative funded by twenty-six countries in the region and the Global Environment Facility of the World Bank, will begin implementation in late-2008 and is expected to pursue EBM/EAF for the Caribbean LME and adjacent areas as a basis for ensuring the sustainable use of region's shared living marine resources. At this time, there is a lack of clarity and specificity within the Wider Caribbean about what moving towards EBM/EAF will mean for governance processes at various institutional levels and geographic scales or for specific coastal and marine resources and ecosystems.

As a means of contributing to the success of the CLME Project and addressing the deficiencies surrounding EBM/EAF in the Caribbean, Dalhousie University and the International Ocean Institute, Nova Scotia, Canada, and Centre for Resource Management and Environmental Studies (CERMES), at the University of the West Indies (UWI) in Barbados have acquired funding from the Nippon Foundation for 2008-2009 for a project entitled 'Strengthening Principled Ocean Governance Networks (PROGOVNET): Transferring Lessons from the Caribbean to the Wider Ocean Governance Community'. Given its focus, the PROGOVNET Project aimed to provide needed guidance to the CLME Project on EBM/EAF through the hosting of a symposium with regional experts in December 2008. The timing and outputs of this important symposium were structured so as to directly contribute to the design and implementation of CLME activities that are scheduled to begin early in 2009.

The aim of the PROGOVNET symposium on 'Marine EBM/EAF in the Caribbean' is to produce a body of background work on EBM/EAF in various Caribbean situations, and to synthesize these ideas under strategic headings that could provide guidance to the CLME Project and other stakeholders in marine resource use with an interest in moving in this direction.

## **2 OPENING CEREMONY**

The Symposium began with a brief opening ceremony at which Professor Robin Mahon of CERMES, UWI served as Master of Ceremonies. Participants were welcomed by Professor Eudine Barriteau, Deputy Principal, University of the West Indies, Cave Hill Campus and Professor Robert Fournier, Professor Emeritus Oceanography and Adjunct Professor Marine Affairs, Dalhousie University, Halifax, Nova Scotia.

The symposium was then opened by Dr. Leo Brewster, Director of the Coastal Zone Management Unit, Ministry of Environment, Water Resources, Drainage and Sanitation on behalf of Hon. Dr. Denis Lowe, Minister of Environment, Water Resources, Drainage and Sanitation. Dr. Brewster emphasized

the importance of taking a holistic approach to sustainable use of living marine resources, and of collaboration at the regional level. He noted that there is strong collaboration between his unit and UWI in addressing coastal and marine issues. He concluded his remarks by formally welcoming all visiting participants to Barbados, on behalf of the Government of Barbados.

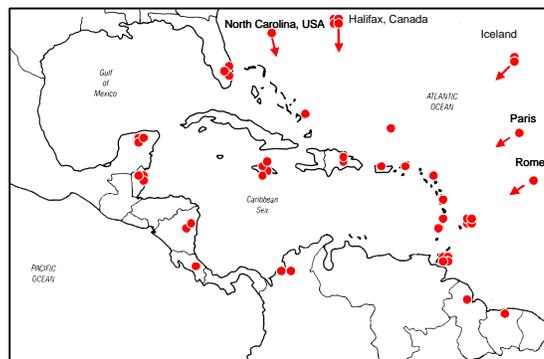


**Speakers at the opening ceremony, from left to right: Professor Robin Mahon, Director of CERMES; Professor Eudine Barriteau, Deputy Principal, University of the West Indies Cave Hill Campus; Professor Robert Fournier, Dalhousie University; and Dr. Leo Brewster, Director, Coastal Zone Management Unit, Barbados**

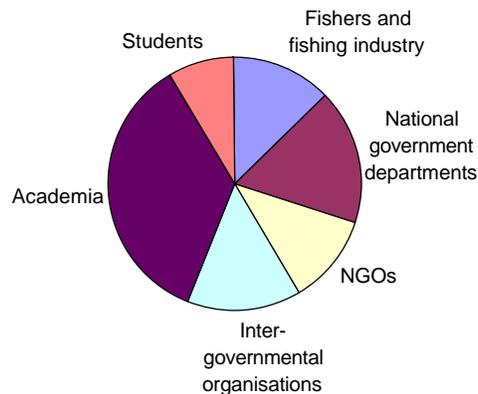
### 3 SYMPOSIUM OVERVIEW

Professor Robin Mahon provided an overview of the symposium. He noted that participants had come from all around the Wider Caribbean (Figure 1) and that there was diversity of backgrounds among them (Figure 2) (Appendix 1). He then reviewed the proposed activities for the symposium (Appendix 2), noting that the various parts made up an entire process that had been designed to achieve a specific set of outputs (Figure 3). He noted that the process was, to some extent, a learning experiment, the outcome of which could not be known. In that sense, he explained that the symposium was as much about exploring ways that participants can work together as it was about information sharing and outputs and asked that participants give their feedback on the experience.

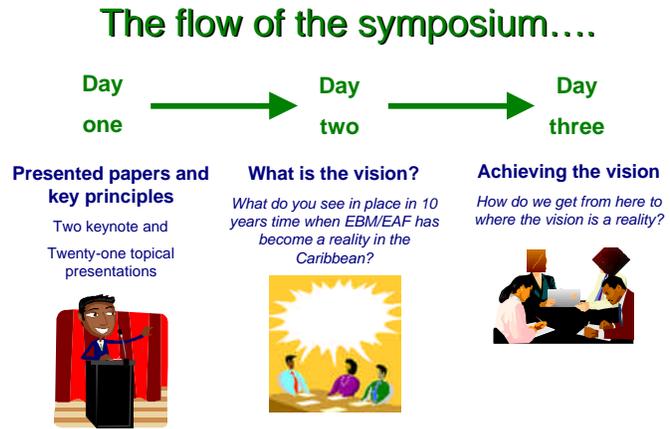
He urged everyone to participate fully in that spirit and emphasized that even those who were not making a presentation had a critical role to play in which they would: (1) receive and integrate information and (2) contribute their ideas freely and fully, so that these ideas could be reflected in the final outputs. He concluded by noting that the participants comprised a remarkable gathering of minds and that he hoped they would make new connections, strengthen old ones and enjoy the company of colleagues with similar interest from around the region.



**Figure 1. The geographical origin of symposium participants**



**Figure 2. Occupational breakdown of symposium participants**



**Figure 3. The overall organizational flow of the symposium**

## 4 PRESENTATIONS

During the first day and the beginning of the second day there were two keynote presentations and 21 individual presentations on the topic of ecosystem based management or ecosystem approach to fisheries. The authors and titles of the presented papers are provided in Table 1.

**Table 1: Symposium papers and authors**

Title	Authors
Keynote – Principled ocean governance for the Wider Caribbean Region	Robin Mahon, Lucia Fanning, Patrick McConney
Keynote – The Ecosystem Approach to Fisheries	Gabriela Bianchi
1. Implications of land-based activities in Small Islands for Marine EBM	Vincent Sweeney Christopher Corbin
2. Impacts of Land-Based Marine Pollution on Ecosystems in the Caribbean Sea	Diego L. Gil-Agudelo, Peter Wells
3. Social considerations for marine Ecosystem Based Management	Patrick McConney, Silvia Salas
4. Economic Considerations for Marine EBM and EAF in the Caribbean	Peter Schuhmann, Juan Carlos Seijo, James Casey
5. Linkages with other macrofauna	Julia Horrocks, Nathalie Ward, Anne Sutton
6. Building capacity and networking among MPA practitioners to enhance large-scale ecosystem-based management	Georgina Bustamante, Alessandra Vanzella-Khouri, Heidi Savelli Soderberg
7. Application of EBM concepts to the management of Caribbean coral reef fisheries	Phillip Kramer
8. EBM/EAF for lobster fisheries	Nelson Ehrhardt, Rafael Puga, Mark Butler IV
9. Ecosystem-based Management Criteria for Queen Conch Fisheries	Richard Appeldoorn, Richard S. Appeldoorn, Erick Castro Gonzalez, Robert Glazer, Martha Prada
10. Management of the Shrimp and Groundfish Fisheries of the North Brazil Shelf LME: Ecosystem approach	Terrence Phillips, Bisessar Chakalall, Les Romahlo

**Table 1: Symposium papers and authors**

Title	Authors
11. Ecosystem-based Management of Coastal Lagoons and Estuaries	Alejandro Yáñez-Arancibia, John W. Day, Bastiaan A. Knoppers, Jorge A. Jiménez
12. Deepwater Red Snapper Fisheries	Sherry Heileman
13. Ecosystem issues for flyingfish fisheries in the eastern Caribbean	Paul Fanning, Hazel Oxenford
14. Towards an Ecosystem Approach to Fisheries (EAF) for Management of Large Pelagic Fish Resources in the Caribbean Large Marine Ecosystem (CLME)	Susan Singh-Renton, David J. Die, Elizabeth Mohammed
15. Status of Multilateral Environmental Instruments (MEAs) Supporting Ecosystem Based Management and Ecosystem Approach to Fisheries	Milton Haughton
16. The Precautionary Approach (the Twin of EBM): Beacon of Legal Hope and Sea of Challenges	David VanderZwaag
17. Aspects of Biodiversity Law in the Caribbean: The Ecosystem Based Management Concept	Winston Anderson
18. NGOs in EBM, Marine Ecosystem Based Management in the Caribbean	Bruce Potter, Kemraj Parsram
19. An Overview and Assessment of Effective Institutional Arrangements for Marine EBM in the Caribbean	Lucia Fanning, Robin Mahon
20. Spatial Data Infrastructure in Support of Marine Ecosystem Based Management in the Caribbean	Butler, M.J.A., P.R. Boudreau , C. LeBlanc, K. Baldwin
21. Caribbean Large Marine Ecosystem (CLME) and Adjacent Areas Project	Cesar Toro, Robin Mahon



**Presentation session, from left to right: Dr. Georgina Bustamante, CAMPAM; Mr. Milton Haughton, Caribbean Regional Fisheries Mechanism; questions from the floor.**

## 5 PRINCIPLES

The first keynote presentation emphasized the importance of placing principles at the forefront of discussions about EBM. It was noted that making these explicit will ensure that all who are working in EBM/EAF in the Caribbean will be working from a common set of principles. Two processes were used at the Symposium to explore the extent to which a common set of principles could be assembled. The first used dot prioritization, an established facilitation process for prioritizing ideas among a large number of people (Diceman 2006). Participants were each given 10 adhesive dots to distribute among a set of principles displayed on wall posters. The results of the prioritisation are shown in Table 2. A

set of ‘Top 10 Principles’ was identified through the dot voting process. As illustrated in Figure 4, the top 10 principles identified were adaptiveness, integration, accountability, conservation, precaution, sustainability, empowerment, equity, use of science and participation. This should not be interpreted as suggesting that the remaining principles are not important, but as an indication of the relative importance as perceived by participants.

The second process focused on the application of the identified principles and after participants had completed the visioning process. Each vision element that was developed by the participants was considered in the light of these 10 principles so as to identify which of these best corresponded with each of the crafted vision elements.



**Lucia Fanning contributes dots to the list of principles**

**Table 2. Ranking of principles using a dot voting methodology**

Principles		Row score	Group score
Accountability	Decision makers and members of the public should be accountable for the actions they take that affect ocean and coastal resources.	32	32
Adaptiveness	Given uncertainty in environmental resource management, decision-makers should gather and integrate ecological, social, and economic information for adaptation of management	26	31
	Management programs should be designed to meet clear goals and provide new information to continually improve the scientific basis for future management.	5	
Balanced use	Management should seek the appropriate balance between, and integration of, conservation and use of biological diversity.	6	26
	The many potentially beneficial uses of ocean and coastal resources should be acknowledged and managed in a way that balances competing uses while preserving and protecting the overall integrity of the ocean and coastal environments.	18	
	The objectives of management of land, water and living resources are a matter of societal choice.	2	
Compliance	Ensure compliance with and enforcement of conservation and management measures	10	10
Conservation	All species in an ecosystem are recognised as being important to the health of the ecosystem.	2	34
	Management should conserve aquatic ecosystems and protect critical fisheries habitats	25	
	To preserve marine biodiversity, downward trends in marine biodiversity should be reversed where they exist to maintain or recover natural levels of biological diversity and ecosystem services.	7	
Cooperation	Cooperate at subregional, regional and global levels to ensure effective conservation and protection of living aquatic resources throughout their range of distribution	18	18
Efficiency	Ocean governance systems should operate with as much efficiency and predictability as possible.	5	7
	The avoidance of waste of any commodity that is of value, whether material or immaterial	2	
Empowerment	All interest groups (women and men) are capable of actively participating in decision-making in a non-dominated environment	25	39
	Laws governing uses of ocean and coastal resources should be clear, coordinated, and accessible to the nation’s citizens to facilitate compliance.	14	
Equity	Fairness and justice in the way that benefits are allocated	14	49
	Management of fisheries should ensure allocation of user rights and equity	13	
	Management should ensure safe, healthy and fair working and living conditions in the	11	

Principles		Row score	Group score
	fishing industry to improve human well-being		
	Management should protect the rights of fishers and fishworkers, particularly subsistence, small-scale and artisanal fishers	11	
Full cost allocation	All of the internal and external costs and benefits, including social and ecological, of decisions concerning the use of environmental resources should be identified and allocated.	12	12
Integration	Ocean policies should be based on the recognition that the oceans, land, and atmosphere are inextricably intertwined.	29	31
	Management of fisheries should promote sectoral integration	3	
Participation	All stakeholders should be engaged in the formulation and implementation of decisions concerning environmental resources	34	64
	All those who have a legitimate interest are involved prior to any decisions about management being taken	11	
	All interest groups understand the objectives of the participatory process and have adequate and timely access to relevant information	19	
Precaution	In the face of uncertainty about potentially irreversible environmental impacts, decisions concerning their use should err on the side of caution and the burden of proof should shift to those whose activities potentially damage the environment	20	34
	The acknowledgement of uncertainty and risk and the consequent exercise of care to avoid undesirable outcomes	10	
	Management should not postpone or fail to take action due to absence of adequate scientific information	4	
Rationality	What is to be done or being done should make logical sense to stakeholders	7	7
Representativeness	Decision makers are representative of all interest groups	7	7
Responsiveness	The capacity and commitment to respond to needs and concerns	6	6
Scale appropriateness	Management measures should be compatible across the entire distribution of the resource	4	23
	Management should be undertaken at the appropriate spatial and temporal scales.	12	
	Recognising the varying temporal scales and lag-effects that characterise ecosystem processes, objectives for ecosystem management should be set for the long term.	7	
Steward-ship	Access to environmental resources carries attendant responsibilities to use them in an ecologically sustainable, economically efficient, and socially fair manner	12	25
	Humans are part of the ecosystem and will introduce change, but because of our trophic level we must be stewards of our changes.	4	
	Promote awareness of responsible fisheries through education and training	9	
Subsidiarity	Management should be decentralised to the lowest appropriate level.	10	10
Sustainability	Conserve target species, species belonging to the same ecosystem or associated with or dependent upon the target species.	1	34
	Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.	10	
	Ecosystems must be able to reorganise naturally which may result in declines of charismatic species.	5	
	Management of fisheries should ensure reversibility and rebuilding and limit their impact on the ecosystem to the extent possible	2	
	Ocean policy should be designed to meet the needs of the present generation without compromising the ability of future generations to meet their needs.	16	
Transparency	Everyone should see how decisions are made and who makes them	21	21
Use of science	Ocean policy decisions should be based on the best available understanding of the natural, social, and economic processes that affect ocean and coastal environments	25	57
	Use of best scientific evidence available, including traditional knowledge	32	

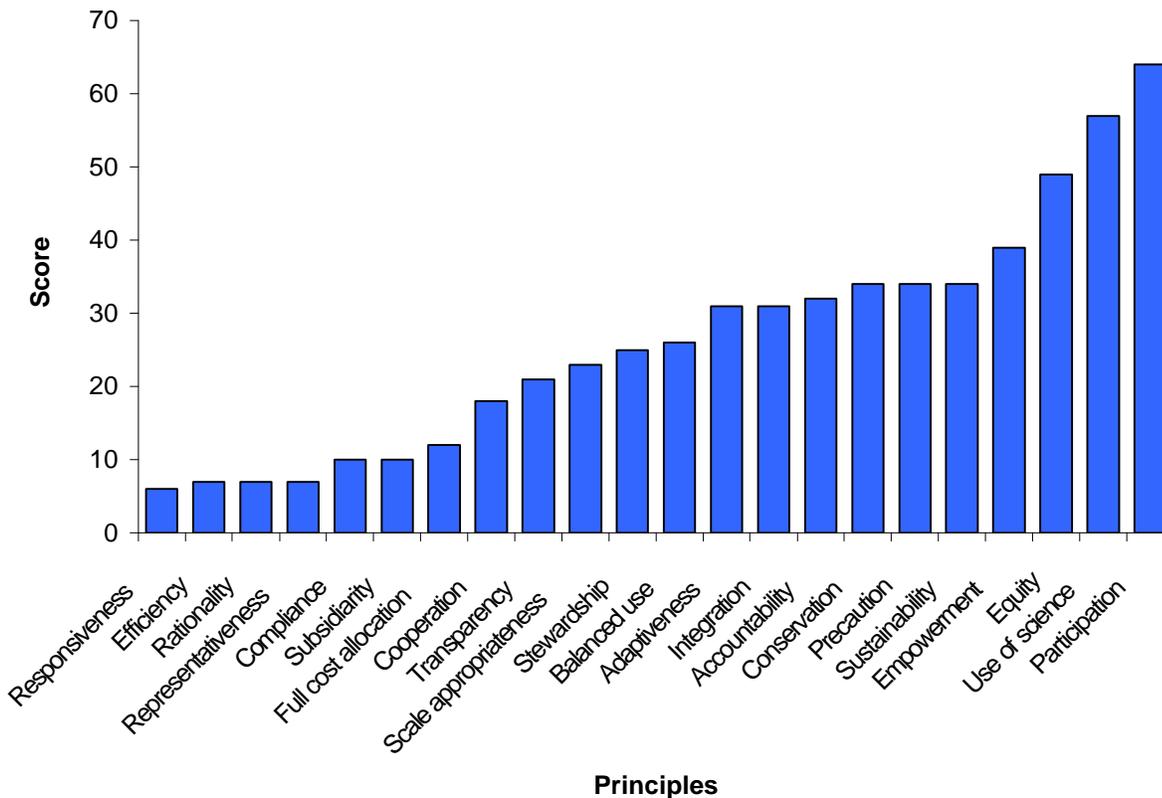
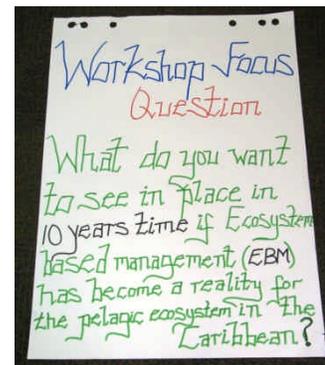


Figure 4. Ranking of principles by degree of importance based on dot voting scores in Table 2.

## 6 VISIONING

### 6.1 Introduction to shared visioning

The visioning process employed was adapted from the Technology of Participation (ToP) Participatory Strategic Planning Method (Spencer 1989, Stanfield 1995, Holman et al 2006) developed by the Institute of Cultural Affairs<sup>1</sup>. This process assumes that everyone has wisdom to communicate and therefore can provide individual puzzle pieces that, when assembled, make up the vision. The process assumes that the vision – the hopes and desired outcomes for the future – are latent in the group. These are assumed to be hidden and concealed in the subconscious, below the level of everyday workplace reality (Stanfield 1995). In the visioning workshop process, stakeholders are presented with question regarding their hopes or expectations for a future scenario,



<sup>1</sup> The Institute of Cultural Affairs in the U.S.A. (ICA-USA) is a private, nonprofit, social change organization that promotes positive change in communities, organizations and individual lives. ICA Head Office: 4750 N. Sheridan Road, Chicago, Ill, 60640, <http://www.ica-usa.org/>.

extending some 5 to 10 years They are then given the opportunity to generate ideas, individually, and then in small groups, about what will have changed in a specified timeframe, . The best ideas of the small groups are then put on cards and organised into clusters on a sticky wall<sup>2</sup> by the group, with assistance of a facilitator. Each cluster is identified with a specific name that represents what would have been accomplished if the vision ideas within the clusters become a reality. This name becomes one of the elements of the groups' shared vision and represents the groups' consensus.

## 6.2 Shared vision outputs

For the purposes of developing a vision for EBM/EAF in the Wider Caribbean, participants were divided into four groups, each representing a specific area of interest among participants or for which they had direct responsibility. These groups represented the following elements of the Caribbean Sea ecosystem: i) the continental shelf; ii) offshore pelagic resources; iii) coral reef resources; and governance (Appendix 3). Care was taken to ensure that there was a mix of backgrounds among the participants in each group. According to the methodology outlined in Section 6.1 above, each group then undertook a visioning exercise, led by a professional facilitator. The results of each group's vision workshop are shown in Tables 3-6.



**Visioning breakout session with the ideas being grouped on the sticky wall**

## 6.3 Prioritisation of vision ideas

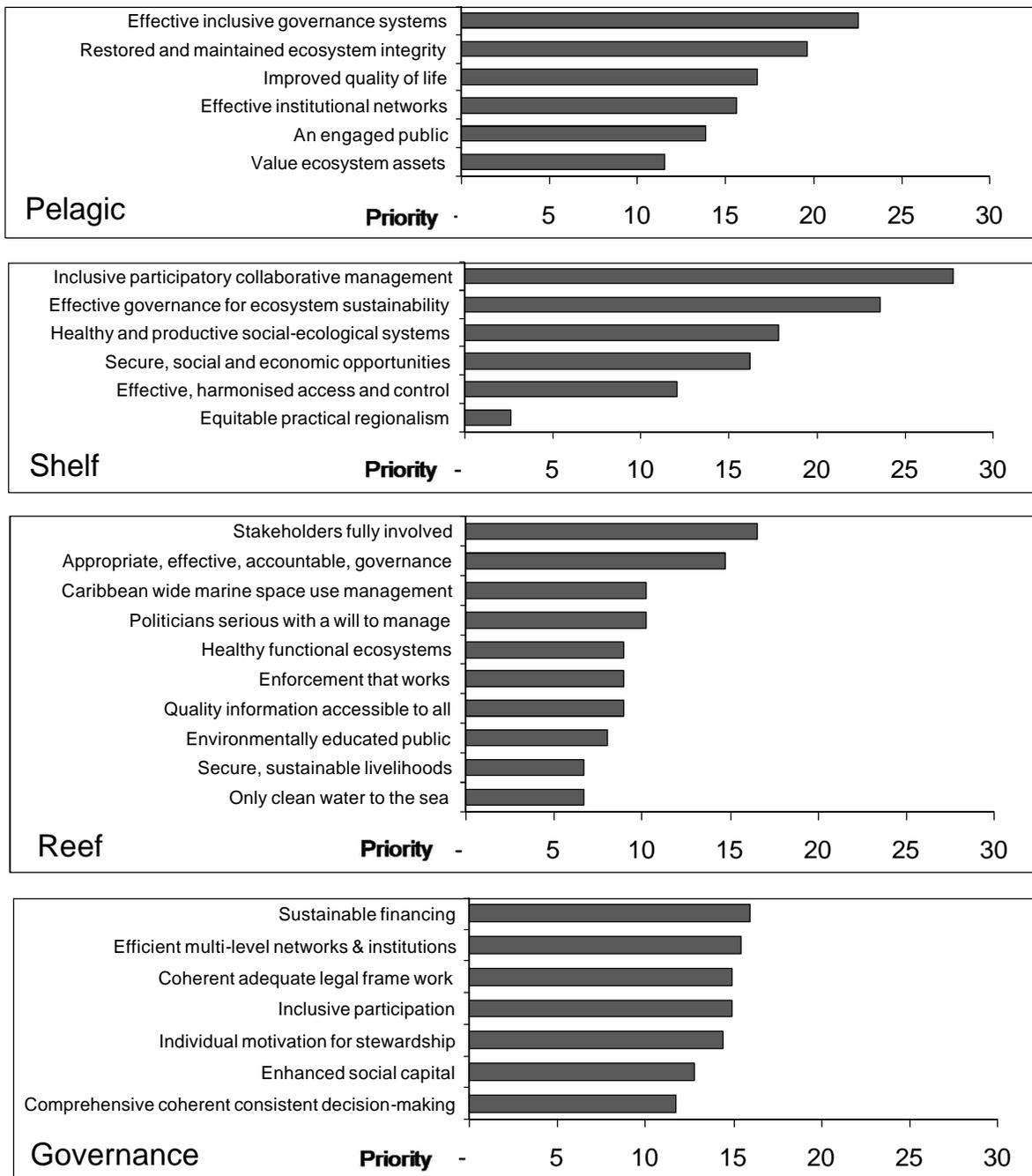
After the visioning process was complete, participants were asked to indicate the ideas on the sticky wall that they felt should be addressed first using dot prioritisation. Each person was given three red dots to indicate their top three priorities and seven blue dots to specify other areas of importance. The results of this prioritisation are shown in Figure 5.

## 6.4 Identification of the principles that support the vision elements

Participants then reviewed the vision elements and indicated the principles that underlie each element. This was done by selecting the corresponding number from a list of the top ten principles (Figure 6). The correspondence of principles to vision elements is shown in Table 7.

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<sup>2</sup> A nylon sheet sprayed with a non-permanent adhesive that allows for the repositioning of cards by a facilitator.



**Figure 5.** The priorities assigned by the four groups to the elements of their visions as shown in tables 3-6.

**Table 3: A vision for ecosystem based management for the continental shelf in the Wider Caribbean.**

<b>FOCUS QUESTION:</b> <i>What do you see in place in 10 years time when EBM/EAF has become a reality in the Caribbean?</i>					
<b>Improved quality of life</b>	<b>Effective inclusive governance systems</b>	<b>Restored and maintained ecosystem integrity</b>	<b>Effective institutional networks</b>	<b>Value ecosystem assets</b>	<b>An engaged public</b>
<ul style="list-style-type: none"> <li>• Secured livelihoods-happy faced</li> <li>• Improved quality of life for stakeholders</li> <li>• Healthy use of the ecosystem that benefits all users</li> <li>• Balanced usage of freshwater including the coastal zone</li> <li>• Sustainable benefits from ecosystem goods and services</li> </ul>	<ul style="list-style-type: none"> <li>• Harmonized inclusive policy on EBM</li> <li>• Harmonized governance</li> <li>• Subsidiarity in decision making and management</li> <li>• Well developed legal framework</li> <li>• Adequate enforcement measures</li> <li>• Wider Caribbean coordinating body established</li> </ul>	<ul style="list-style-type: none"> <li>• Native marine biota very close to natural numbers</li> <li>• Ecosystem integrity being maintained</li> <li>• Quantify habitats under extinction risk</li> <li>• Climate change mitigation and adaptation measures</li> </ul>	<ul style="list-style-type: none"> <li>• Capacity in place to deliver EAF/EBM</li> <li>• A well managed co-coordinated ecosystem</li> <li>• Improved trans-boundary linkages/information sharing</li> </ul>	<ul style="list-style-type: none"> <li>• Ecosystem recognized and treated as natural and regional assets</li> </ul>	<ul style="list-style-type: none"> <li>• Informed educated citizens</li> <li>• Public awareness of the concept</li> </ul>

EBM/EAF Principle	Score
1. Participation	64
2. Use of science	57
3. Equity	49
4. Empowerment	39
5. Sustainability	34
6. Precaution	34
7. Conservation	34
8. Accountability	32
9. Adaptiveness	31
10. Integration	31

**Figure 6. Top ten EBM/EAF principles and the scores they received from the dot prioritisation.**

**Table 4: A vision for ecosystem based management for the pelagic ecosystem in the Wider Caribbean.**

<b>FOCUS QUESTION:</b> <i>What do you see in place in 10 years time when EBM/EAF has become a reality in the Caribbean?</i>					
<b>Inclusive and participatory collaborative management</b>	<b>Equitable practical regionalism</b>	<b>Healthy and productive social-ecological systems</b>	<b>Effective, harmonized access and control</b>	<b>Effective &amp; responsible governance for ecosystem sustainability</b>	<b>Secure, social and economic opportunities</b>
<ul style="list-style-type: none"> <li>• NGOs are stronger and their values listened to</li> <li>• Effective participation of fishers in fisheries conservation and management issues</li> <li>• Fishers take over the industry</li> <li>• Delegation of management to fishers</li> <li>• Recognize and pay full cost of fish</li> <li>• Fisherfolk and government in harmony at decision making level</li> <li>• Education: Listening, understanding challenges and trade-offs</li> <li>• Industry contribution to research</li> </ul>	<ul style="list-style-type: none"> <li>• National interests give way to Regional interest</li> </ul>	<ul style="list-style-type: none"> <li>• More abundant fish resources in the region</li> <li>• Return of great whales to Barbados</li> <li>• Make friends with the sharks</li> <li>• Minimize impacts on the environment</li> <li>• Policy is put in place to protect the different species</li> <li>• Harvesting practices changed and improved</li> </ul>	<ul style="list-style-type: none"> <li>• Eradication of IUU Fishing</li> <li>• Effective Caribbean legislation and successful enforcement</li> <li>• Medium-scale boats legally mobile among CARICOM</li> </ul>	<ul style="list-style-type: none"> <li>• Responsible usage management and networking</li> <li>• Sustainable utilization of fisheries resources</li> <li>• Management decisions based on biological realities of exploited species</li> <li>• Harmonized governance for ecosystem well being and human well being</li> <li>• Transparent commercial operations which incentivize sustainable pelagic fisheries</li> </ul>	<ul style="list-style-type: none"> <li>• Most proud of: Equitability and stability of livelihoods; Health of CLME</li> <li>• Children perceive fishing as a reputable career</li> <li>• Profitable- high standard of living for fisherfolk</li> <li>• Secure access so harvesters can plan a secure future</li> <li>• Contribution of the fishing industry to greater economic development</li> </ul>

**Table 5: A vision for ecosystem based management for coral reef ecosystems in the Wider Caribbean.**

**FOCUS QUESTION:** *What do you see in place in 10 years time when EBM/EAF has become a reality in the Caribbean?*

The Caribbean region - a model for reef management in the world								
Strengthened knowledge base		Good governance				Healthy reefs sustaining people		
Environmentally educated public	Quality information accessible to all	Serious politicians with a will to manage	Appropriate effective accountable governance	Enforcement that works	Stakeholders fully involved	Healthy functional ecosystem	Secure & sustainable livelihoods	Caribbean wide marine space use management
<ul style="list-style-type: none"> <li>• EBM in education curricula</li> <li>• Reef conservation in curriculum</li> <li>• Public environmental awareness</li> </ul>	<ul style="list-style-type: none"> <li>• Easy access Caribbean SDI</li> <li>• Good information available to everyone</li> <li>• Accessible information system</li> <li>• Regular data collection</li> </ul>	<ul style="list-style-type: none"> <li>• Political accountability for sustainability</li> <li>• Reefs high on political agenda</li> <li>• Greater political will by government</li> <li>• More money for management</li> <li>• Full value of reefs recognized</li> </ul>	<ul style="list-style-type: none"> <li>• Regional EBM legislation in place</li> <li>• Harmonized and fully integrated management and legislation among countries</li> <li>• Binding agreements for EBM</li> <li>• International agreements become national laws</li> <li>• Integration of fisheries and CZM regulations</li> <li>• Cross-sectoral agency communication</li> <li>• Adequate capacity to manage reefs</li> <li>• Fishing capacity adjusted to sustainable practices</li> <li>• Elimination of resource disputes</li> </ul>	<ul style="list-style-type: none"> <li>• Enforcement is functional and effective</li> <li>• Functional enforcement</li> <li>• All activities in reefs are well regulated</li> </ul>	<ul style="list-style-type: none"> <li>• Stakeholders fully involved in management and decision-making</li> <li>• Local &amp; scientific knowledge used</li> <li>• Fisher/community rights to manage reefs resources</li> <li>• Active stakeholder participation in governance</li> </ul>	<ul style="list-style-type: none"> <li>• Critical coastal habitats restored</li> <li>• Limits to coastal development</li> <li>• EBM compatible coastal development</li> <li>• Conch off the CITES list</li> <li>• Reefs, seagrass and mangroves with plenty of fish</li> </ul>	<ul style="list-style-type: none"> <li>• Alternative livelihoods</li> <li>• Improve fisherfolk standard of living</li> <li>• Grow coral for income and restoration</li> <li>• Organized equitable market structure</li> </ul>	<ul style="list-style-type: none"> <li>• Network of no-take reserves</li> <li>• Integrated protected areas networks (30%)</li> <li>• Caribbean-wide space-use plan</li> <li>• More no-take reserves</li> <li>• Reefs managed at scales of the resource</li> </ul>
						<p><b>Only clean water to the sea</b></p> <ul style="list-style-type: none"> <li>• All waste-water treated before entering marine environment</li> <li>• Watershed-based focus to management</li> <li>• Only clean freshwater entering the sea</li> </ul>		

**Table 6: A vision for ecosystem based management governance in the Wider Caribbean.**

<b>FOCUS QUESTION:</b> <i>What do you see in place in 10 years time when EBM/EAF has become a reality in the Caribbean?</i>						
<b>Sustainable financing</b>	<b>Inclusive participation</b>	<b>Comprehensive coherent consistent decision-making</b>	<b>Coherent adequate legal frame work</b>	<b>Individual motivation for stewardship</b>	<b>Efficient multi-level networks &amp; institutions</b>	<b>Enhanced social capital</b>
<ul style="list-style-type: none"> <li>• Adequate funding</li> <li>• Financial support for education and information sharing</li> <li>• Full economic valuation of Caribbean coastal and marine goods and services</li> </ul>	<ul style="list-style-type: none"> <li>• Interdisciplinary communication will be standard</li> <li>• World view that encompasses participation and collaboration</li> <li>• More effective and empowered stakeholder participation</li> <li>• Equitable</li> <li>• Access to information</li> <li>• Opportunities to participate are equitable</li> <li>• Inform and involve stakeholders in decision-making at all levels</li> <li>• Managing the source not resource in equitable manner. One person, one vote</li> </ul>	<ul style="list-style-type: none"> <li>• Openness, transparency, accountability</li> <li>• Clear and adequate decisions</li> <li>• Dynamic interaction in decision-making process</li> <li>• Accountability and transparency of all participating stakeholders</li> <li>• Governance of EBM needs to consider the complexity of ecological and social systems</li> <li>• Higher levels of cooperation and collaboration, interdependence, trust, and confidence</li> <li>• Governance must focus attention on management for resilience and building adaptive capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Clear and adequate laws</li> <li>• Clearly defined rationalized legal frameworks</li> <li>• Compliance and enforcement</li> <li>• Inclusion/application of sustainable principles at all governance levels</li> <li>• Governance regime for conservation of biodiversity in areas beyond national jurisdiction</li> </ul>	<ul style="list-style-type: none"> <li>• Incentive-based governance</li> <li>• Environment seen as an enabling factor for development, not a ‘burden’</li> <li>• Awareness and appreciations for ecosystem and the linkages</li> <li>• Incentives for individuals to be good stewards</li> <li>• People placing a higher value on marine resources</li> <li>• Greater efficiency in resource utilization</li> </ul>	<ul style="list-style-type: none"> <li>• Creation of ocean governance networks</li> <li>• Better linkages, networks and collaboration in EBM at all levels/scale</li> <li>• Stream-lined multilevel governance networks</li> <li>• Networking and sharing of Information</li> <li>• Clearly defined rationalized institutional frameworks</li> </ul>	<ul style="list-style-type: none"> <li>• Poverty levels reduced</li> <li>• Implementation of social and intergenerational equity</li> <li>• Social and cultural values fully recognized and developed</li> <li>• Improved quality of life and welfare</li> </ul>

**Table 7: Principles embodied in the group visions for marine EBM in the Wider Caribbean.**

Vision ideas	Participation	Use of Science	Equity	Empowerment	Sustainability	Precaution	Conservation	Accountability	Adaptiveness	Integration
<i>Continental Shelf group</i>										
Improved Quality of Life			v	v	v					
Effective inclusive governance systems	v	v	v	v	v	v	v	v	v	v
Restored and maintained ecosystem integrity		v			v	v	v		v	v
Effective institutional networks	v	v							v	v
Value ecosystem assets		v	v	v	v	v	v	v		
An engaged public	v	v	v	v	v				v	v
<i>Offshore Pelagic group</i>										
Inclusive and participatory collaborative management	v	v	v	v						v
Equitable practical regionalism	v		v							v
Healthy and productive social-ecological systems		v	v		v	v	v		v	
Effective, harmonized access and control	v					v	v	v		
Effective & responsible governance for ecosystem sustainability	v	v		v	v	v	v			
Secure, social and economic opportunities			v	v	v			v		
<i>Reef group</i>										
Environmentally educated public		v		v			v			
Quality information accessible to all	v	v		v						
Serious politicians with a will to manage	v			v				v		
Appropriate effective accountable governance	v		v	v	v	v	v	v	v	
Enforcement that works	v			v	v			v		
Stakeholders fully involved	v	v	v	v						
Healthy functional ecosystems		v			v		v			v
Only clean water to the sea		v			v		v			v

Vision ideas	Participation	Use of Science	Equity	Empowerment	Sustainability	Precaution	Conservation	Accountability	Adaptiveness	Integration
Secure & sustainable livelihoods	✓		✓	✓	✓		✓		✓	
Caribbean wide marine space use management	✓	✓				✓	✓			✓
<i>Governance group</i>										
Sustainable financing	✓	✓	✓	✓	✓			✓	✓	✓
Inclusive participation	✓		✓	✓		✓	✓	✓	✓	✓
Comprehensive coherent consistent decision-making	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Coherent adequate legal frame work	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Individual motivation for stewardship	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Efficient multi-level networks & institutions	✓	✓	✓	✓	✓		✓	✓	✓	✓
Enhanced social capital	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓



**Participants scrutinize the vision elements on the stick wall to determine which principles apply**

## 6.5 Shared visions discussion

At the end of the visioning exercise, the four groups convened in plenary to share the results of their individual visioning workshops and to reflect on what was experienced.

With regards to the methodology, some participants expressed some confusion over the dot prioritization process. However, a greater number expressed concern over the like-mindedness of members of the group, mostly possessing a scientific perspective. This led to a questioning of both the responsibility for creating a vision as well as the soundness and acceptability of the vision among the broad suite of stakeholders, the public and the key decision makers and politicians who were not present and as such, not part of the visioning process at the symposium. Additionally, some participants feared that the level of distillation required to achieve the common vision elements resulted in a loss of the richness of the discussion and the nuances that were part of the individual group deliberations.

In terms of identifying the various components of the vision elements, some participants expressed surprise at how quickly members of a given group reached consensus, leading some to question whether the appropriate level of debate was achieved. However, others observed that given the regional expertise and representativeness of the participants, the importance of the identified vision elements in terms of how to meaningfully achieve EBM/EAF in the Caribbean should not be underestimated. Nonetheless, the significance of engaging politicians and other decision makers as well as the general public on aspects of EBM/EAF in the region was emphasized, recognizing that politicians respond to pressures from the electorate and that a climate for needed policy change can come from both a “bottom-up” push as well as a “top-down” pull. The importance of “champions” among all stakeholders but particularly politicians was identified as crucial in advancing EBM/EAF for the Wider Caribbean.

In discussing the means to overcome some of the identified challenges, participants focused the need to utilize marketing and media techniques as well as the internet and networking across the region in order to get EBM/EAF generally, and the objectives of the Caribbean Large Marine Ecosystem Project in particular, onto the political agenda.

Finally, participants suggested that there needs to be a clear distinction between the regional and national priorities so that decision makers at each level know where they have to focus attention. To be successful at a regional level, EBM/EAF requires attention to scale issues that encompasses local, national and sub-regional levels as well as paying attention to extra-regional issues. Participants stressed that ultimately, the region requires a vision phrase that speaks to all stakeholders and decision makers alike.

## 7 ASSISTING AND RESISTING FACTORS

Assisting and resisting factors is a concept that is adapted from force field analysis. The concept, developed by American psychologist Kurt Lewin, looks at factors (forces) that are either driving movement toward a goal (helping forces) or blocking movement toward a goal (hindering forces) (Wikipedia 2008).

Following the completion of the shared vision exercise, the four groups discussed factors that assist movement toward the vision and those that resist it. The exercise was



**Facilitator Sandra Husbands organizes assisting and resisting factors on the sticky wall**

carried out in two parts. In the first part, each group brainstormed assisting factors. These factors were then sorted into those that signified ‘strengths’ and those that suggested ‘opportunities’. The second part identified factors that were either ‘weaknesses’ or ‘threats’. Following are the results of the four breakout groups’ assisting and resisting factors exercises.

### 7.1 Continental Shelf Group

Assisting Factors	Resisting Factors
<p><b>(All considered strengths and opportunities)</b></p> <p>Study cases            Legislation            Science and technology            Experienced human resource base            Knowledge of what is required            Regional co-ordination            Commonality of issues            Existing government frameworks            Existing institutions            Agreement among some key stakeholders            Convergence of concerns            Schools, universities, education systems            Information technology (communication, information management)            Civil society engaged</p>	<p><b>Threats</b></p> <p>Poverty            Jurisdictional issues</p> <p><b>Weaknesses</b></p> <p>Resource constraints            Inadequate money (\$\$)            Resistance to change            Anti-intellectual culture in decision-making            Inadequate knowledge of EBM            Perception that this is a pipe dream            Unsupportive government policy            Inadequate awareness            Ad hoc decision-making            Politics (Bureaucratic impediments)            Command and control</p> <p><b>Both threats and weaknesses</b></p> <p>Ineffective Governance            Diversity-insularity</p>

### 7.2 Pelagic Group

Assisting Factors	Resisting Factors
<p><b>Strengths</b></p> <p>More regional integration of projects in Marine Science            Harmonized legislation            Responsible people            Existing regional institutions to facilitate research Some very good, capable human resources Knowledge of ecosystem health Caribbean Regional Fisheries Mechanism (CRFM)            UWI for research            Greater awareness and knowledge of issues            Existing relevant organizations that can be networked for effective governance            Collaboration            Public awareness and consultation            Harmony            Regional heads are supporting the development of the RFO for the purpose of strengthening the industry            Improved regional and international collaboration (at least among scientist)</p>	<p><b>Threats</b></p> <p>Negative climate change impacts            Declining world economy- limited resources            Short term solutions to economic development needs            Government actions look at short term</p>

Assisting Factors	Resisting Factors
<p>Caribbean Fisherfolk monuments Education Existing regional institutions CERMES &amp; CRFM Strengthening of fisherfolk organization to participate in decision making and management</p> <p><b>Opportunities</b></p> <p>Regional government commitment to Common Fisheries Policy and Regime. More CARICOM members are interested in ICCAT CLME project More research on Governance for EBM in Progress Growing consumer demand for organic and fair trade products Declining catches Caribbean integration Caribbean Sea Initiative/Commission Necessity- Observed decline in stocks and profits Government has taken more interest in the development of the fishing industry CARICOM Common Fisheries Policy Financial Institutions Growing demand for sustainable ecotourism Market forces (Eco-labeling) Proposed Collaboration with ICCAT</p>	

### 7.3 Reef Group

Assisting Factors	Resisting Factors
<p>Impacts of Climate Change Science and Information Technology Information and Education Political Understanding and Will Fisher and stakeholder participation Internet Ecotourism /Green Industry Tourism sector participation Disappearance of fish resources Favorable market forces New president in USA Education in schools Multi-lateral funding Committed Players Recovering rent from natural resources (economics)</p>	<p><b>Weakness</b></p> <p>Stakeholders manipulating political system Small size of countries Ineffective administration systems Lack of information sharing Limited resources Highly complex geo-political mosaic – think as country NOT region Chronic corruption Lack of capacity Open access to fisheries Closed access to fisheries</p> <p><b>Threats</b></p> <p>Poverty Climate change Uncontrolled investment in coastal development Pollution Increased demand in market Invasive species</p>

Assisting Factors	Resisting Factors
	Dams – water flows Oil Infrastructure Farming practices Over-population

## 7.4 Governance Group

Assisting Factors	Resisting Factors
<p><b>Strengths</b></p> <p>Existing institutions</p> <p>Motivated stakeholders</p> <p>Commitment to the rule of law</p> <p>Human resources and experiences</p> <p>Existing donors and partners</p> <p>Existing mechanisms for trade negotiations (bi/multi lateral) now include environment</p> <p>Internal and external capacity and capability. CERMES, Nippon, GEF, FAO etc...</p> <p>Pride in Caribbean culture</p> <p>High investment in climate change adaptation / DRR can be leveraged for EBM</p> <p>Strength in numbers (# of nation can create political leverage)</p> <p>Participation enshrined in national law/commitments to MEAs (CBB etc.)</p> <p>Clear dependence on the Sea (tourism, livelihoods) makes action easier to sell</p> <p>Higher awareness of many stake holder groups of need for EBM</p> <p><b>Opportunities</b></p> <p>Open access to environment information</p> <p>Regional economic , political, integration can enhance external negotiating power</p> <p>MEAs</p> <p>Open Access to knowledge/ information/ data</p> <p>Dependence of Caribbean economic activity on healthy natural resources (driver of change)</p> <p>Sustainability assessments of nation legal frameworks</p> <p>Existing organizations can be built upon</p> <p>Technology exists and can be easily imported</p> <p>Education</p> <p>Inclusion of ‘soft’ laws into domestic law</p>	<p><b>Weaknesses</b></p> <p>Outdated and overlapping laws and regulations</p> <p>Weak mechanisms and logistics for monitoring, control and surveillance</p> <p>Budgetary constrains for implementation of actions</p> <p>IUU fishing takes place</p> <p>High rate of poverty and dependence on marine resources</p> <p>Caribbean states find it difficult to control overexploitation of resources</p> <p>Multicultural and Multilanguage culture makes it costly for effective communication</p> <p>Vulnerable to Climate change</p> <p>Small vulnerable economies</p> <p>Lack of political will</p> <p>Mismanagement of watersheds</p> <p>High levels of poverty and inequality</p> <p>Coastal pollution urbanization</p> <p>Weak culture of participation and information sharing</p> <p>Ineffective, limited communication between scientists and decision-makers</p> <p>Lack of data</p> <p>Multiple levels of diversity poses challenges</p> <p>Limiting fishing will threaten livelihoods and social safety net</p> <p>Lack of capacity and resources for full participation at all levels</p> <p>Conflicting national interests</p> <p>Lack of education</p> <p>Limited political commitment to ecological sustainability</p> <p>Limited incorporation of sustainability principles into domestic law</p> <p>Inadequate sanctions for beach regulations</p> <p>Small vulnerable economies and limited revenue inflows</p> <p>Inadequate community involvement in Decision-making</p> <p>Brain drain</p> <p>Excessive legislative back log</p>

Assisting Factors	Resisting Factors
	Small over-worked, understaffed government departments <b>Threats</b> Drug trafficking – affecting social capital, alternative livelihoods Increasing global demand for seafood Negative impacts of developed country policies, ex. EPA Global warming climate change IUU fishing War and conflict

### 7.5 The combined vision

By combining the vision elements for EBM/EAF for the Wider Caribbean from each of the four groups, a combined vision, as illustrated in the final column of Table 8 was constructed.

**Table 8: Combined Vision for EBM/EAF for the Wider Caribbean Region**

The elements that make up of our vision from the four groups				Our overall vision
Governance	Reef ecosystems	Pelagic ecosystems	Continental shelf ecosystems	
	<ul style="list-style-type: none"> <li>Only clean water to the sea</li> <li>Healthy functional ecosystems</li> </ul>	<ul style="list-style-type: none"> <li>Healthy and productive social-ecological systems</li> </ul>	<ul style="list-style-type: none"> <li>Restored and maintained ecosystem integrity</li> </ul>	<b>Healthy marine ecosystems in the Wider Caribbean</b>
			<ul style="list-style-type: none"> <li>Value ecosystem assets</li> </ul>	
<ul style="list-style-type: none"> <li>Sustainable financing</li> </ul>				<b>and protected through strong institutions at local national and regional levels providing effective governance</b>
<ul style="list-style-type: none"> <li>Comprehensive coherent consistent decision-making</li> <li>Coherent adequate legal frame work</li> <li>Efficient multi-level networks &amp; institutions</li> </ul>	<ul style="list-style-type: none"> <li>Politicians serious about environment and with a will to manage</li> <li>Appropriate effective accountable governance</li> <li>Enforcement that works</li> <li>Caribbean wide marine space use management</li> </ul>	<ul style="list-style-type: none"> <li>Effective and responsible governance for ecosystem sustainability</li> <li>Effective, harmonized access and control</li> <li>Equitable practical regionalism</li> </ul>	<ul style="list-style-type: none"> <li>Effective institutional networks</li> </ul>	
<ul style="list-style-type: none"> <li>Inclusive participation</li> </ul>	<ul style="list-style-type: none"> <li>Stakeholders fully involved</li> <li>Quality information accessible to all</li> </ul>	<ul style="list-style-type: none"> <li>Inclusive and participatory collaborative management</li> </ul>	<ul style="list-style-type: none"> <li>Effective Inclusive governance systems</li> </ul>	<b>that involves everyone</b>
<ul style="list-style-type: none"> <li>Individual motivation for stewardship</li> </ul>	<ul style="list-style-type: none"> <li>Environmentally educated public</li> </ul>		<ul style="list-style-type: none"> <li>An Engaged Public</li> </ul>	<b>is fully understood and supported by the public</b>
<ul style="list-style-type: none"> <li>Enhanced social capital</li> </ul>	<ul style="list-style-type: none"> <li>Secure and sustainable livelihoods</li> </ul>	<ul style="list-style-type: none"> <li>Secure, social and economic opportunities</li> </ul>	<ul style="list-style-type: none"> <li>Improved quality of Life</li> </ul>	<b>and enhances livelihoods and human well being</b>

## 8 ACHIEVING THE VISION

In the next stage of the Symposium, participants were asked to consider what actions will be necessary for EBM/EAF to become a reality in the Caribbean. To do this, the World Café process was used (Creative Commons 2008).

### 8.1 World Café Methodology

World Café is a conversational methodology that is useful in accessing the best thinking of groups (Creative Commons 2008). In a World Café session, four to five people sit at a café-style table to explore a question or issue that matters in their life, work or community. Other persons seated at similar tables explore similar questions. As participants talk, they are encouraged to write down key ideas, or sketch them on paper tablecloths provided for that purpose (see table art figure) After a 20-30 minute 'round of conversation' participants are invited to change tables – carrying insights from their previous conversation to a newly formed small group. One 'host' remains to share with new arrivals any key ideas or questions from the previous dialogue. After three rounds of discussion, the groups meet as a whole to 'harvest' the ideas from the conversations.

The World Café is based on a set of 'integrated design principles' that are intended to foster authentic dialogue. These are:

**Setting the context** – Defining the purpose for convening the Café plus the desired outcomes and range of perspectives that need to be included in the process.

**Creating a hospitable space** – Having a warm and friendly café setting alerts participants that this gathering is not a business-as-usual meeting. Additionally, meeting in small groups creates conversations that are quite different in tables set for 10. Every effort is made to provide natural light, flowers, and refreshments to nourish good conversation.

**Explore questions that matter** – The questions to be considered by the group are those they care the most about. In addition, participants are invited to explore possibilities rather than thinking about what went wrong or who is to blame.

**Encourage everyone's contributions** – The process encourages all participants to contribute to the conversation. Each participant in the Café represents a part of the whole system's diversity and as each person has the chance to contribute, more of the insights inherent in the group become accessible.

**Connect diverse perspectives** - As each person shares their perspective, new ideas may emerge. Tablecloths are used plus paper and markers to create a "shared visual space" through drawing the emerging ideas.

**Listen Together and Notice Patterns** - The quality of the listening is an important factor determining the success of a Café. Participants are encouraged to listen closely to each other and to try not to formulate their ideas while another is talking.



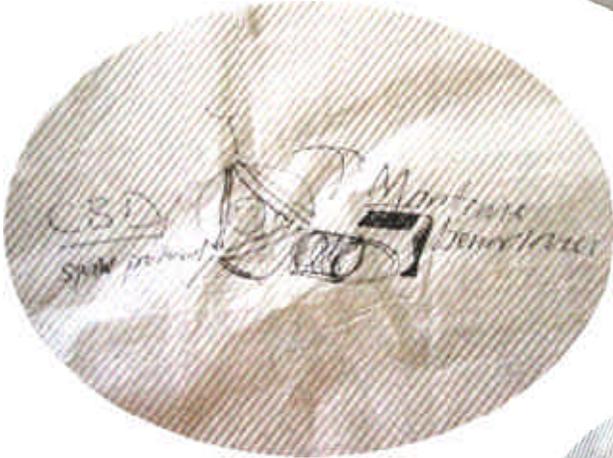


Table art from the World Café sessions

**Share Collective Discoveries** - Conversations held at one table reflect a pattern of wholeness that connects with the conversations at the other tables. The last phase of the Café involves making this pattern of wholeness visible to everyone. To do so, the facilitator holds a conversation with the individual tables and the whole group.

## 8.2 World Café results - Achieving the vision

Each EBM/EAF breakout group was assigned the task of developing appropriate actions for each element of the vision they had identified earlier. Following are the results of the conversations.



Small groups discussing key actions required to achieve the vision

### 8.2.1 Continental Shelf Group

#### Vision element 1: Improved quality of life

##### Key actions:

- Pursue a phased multi-sectoral approach to development utilising existing support systems (governance)
- Focus on waste water treatment, beginning with restoration of water quality (national policy)
- Look into alternative livelihoods
- Limit access to fisheries
- Provide support through technical and/or financial means the development of businesses at the community level
- Develop and share success stories
- Resolve the user conflicts

#### Vision element 2: Effective inclusive government systems

##### Key actions:

- Develop mechanisms to allow equitable access to the resources and benefits
- Empower local organizations through tools including mentoring
- Comprehensive stakeholder engagement

- Foster good management at all levels, particularly at the lower levels
- Provide fundamental education to all groups
- Put value on ecosystem services i.e. through environmental economics
- Established coordinated regional and sub-regional policy to resolve common challenges
- Enforcement is fundamental
- Ensure that the precautionary approach is always utilized
- Utilize inter-sectoral committees with decision-making mechanisms
- Establish institutional arrangements with adequate funding
- Management plans should identify and evaluate tradeoffs
- Ratification and implementation of existing agreements

### Vision element 3: Restored and maintained ecosystem integrity

#### Key actions:

- 100% treatment of water discharged into the coastal and marine environment
- Increased scientific monitoring
- Establish baseline values and indicators
- Improve information sharing and maintenance of that information and data to acceptable standards
- Fundamental education at all levels and help develop incentives for their participation thereafter
- Increased surveillance and enforcement, including support of self monitoring and enforcement
- Utilisation of best practices by all sectors
- Establishment of protected areas (MPAs)
- Integration of coastal zone and land use planning
- Reef and mangrove restoration

### Vision element 4: Effective institutional networks

#### Key actions:

- Need for a clear understanding of the role of institutions
- Rationalize the roles of different organisations for efficiency and effectiveness
- Need for linkages of institutions at various levels - CLME efforts can be used as a governance model for networking at a local, national and regional level
- Build on existing institutional networks (example CRFM)
- Institutional arrangement at sectoral level
- Establish credibility of institutions via transparency and accountability mechanisms
- More effort on decision-making vs. science and technology at institutional level
- Databases for different levels of users and different territories, to facilitate dissemination of information widely across stakeholders, decision-makers, etc.
- Education and information to address resistance to change
- Reallocation of resources towards education and sectoral level institutions
- Identify champions nationally and regionally to promote causes to attend to political challenges
- Generate demand for change at the local level
- Undertake more in-depth social and economic analyses

- Establish benefits for the sustainability of networks

#### Vision element 5: Value ecosystem assets

##### Key actions:

- Utilise resource economics to put a value on ecosystem goods
- Build on existing knowledge especially on social and economic analysis
- Use data from resource institutions as well as traditional groups like fisher folk
- Undertake comparative analyses (re: tradeoffs)
- Identify and quantify different goods and processing by-products of the industry (example what might be considered waste presently)
- Use economic information to develop policy and legislation support for EBM
- Promote awareness of these issues in the public

#### Vision element 6: An engaged public

##### Key actions:

- Incorporate EBM principles in the curriculum at all levels of the educational system
- Utilise experts, technology to communicate to the public to engage them (example facebook EBM site)
- Provide wide access to information and knowledge
- Build on the convergence of EBM concern
- Use language that is suitable to the stakeholders
- Explore divers communication means
- Create conditions for engagement

#### 8.2.2 Offshore Pelagic Group

For each vision element, but particularly the first, the participants suggested key actions for progress, who could be the key drivers for these and how the actions could take place.

##### Vision element 1: Inclusive and participatory collaborative management

##### *Key actions*

- Identify stakeholders and representatives - across sectors (national level)
- Educate stakeholders on purpose of EBM and invite their views
  - Establish mechanism for dialogue/communication
  - Identify and prioritize issues/concerns/challenges
- Establish coordinating committee (national level) and representation across sectors
  - Include decision makers or representatives for continuity and participation
- Effective communication for coordinator mechanism (strengthen skills) and decision making
  - National fisheries organization to be strengthened
  - Communication among countries – ministers are key communicators



**Some pelagics group participants**

- Networking various government levels – must also be inter-sectoral
- Common policy- legislation- enforcement (regional level, collaboration among countries)
- Ministers to be convinced of initiative to advance EBM
  - Free and open discussion – solicit involvement of ministers
  - Role of technology in communication - meeting dates etc. shared electronically
  - Strong and effective fisher folk organizations - politicians respond to the electorate
  - >90% of vessels owned by non-fishers - professionals- lack of stewardship by these
- Political intervention to drive the collaboration scaling up from national to regional

#### *Who?*

- Caribbean Sea Commission (Multi - sectoral) - Caribbean Sea initiative (possesses large scale of collaboration required for pelagics in region)
- CLME project
- National fisheries authorities
- CRFM and other regional organizations
- Community Based Organizations

#### *Some steps*

- During the creation of a Caribbean/Common Fisheries Policy and a Caribbean Marine Ecosystem Framework Agreement the principles of inclusive participatory collaborative management would be enshrined; then national authorities would work in a top-down fashion institutionalized collaborative management approach in all fisheries activities and programmes.
- National authorities would assess best practices and lessons learnt, and effectively communicate these to others through documentation, internet, advertisements and participatory events.
- Regional fisher folk network, currently in progress by CRFM is needed for effective participation.
- Expand over time to involve Spanish, French and Dutch speaking Caribbean in pelagics EBM
- CRFM requires a communication strategy and plan covering all types of communication.
- Broaden to rest of Caribbean and include focal points (national and sub-regional for pelagic issues).
- Include EBM in international trade and postharvest sector in trade talks
- Need bottom-up and top-down. Use ACS Caribbean Sea Commission as a possible framework
- Serious use of documentary film as an information tool to reach fishers, general public, politicians

#### Vision element 2: Equitable practical regionalism

##### *Key actions*

- Strengthen linkages between WECAFC and CRFM
- Weaknesses in human capacity within the Fisheries Divisions need to be addressed
- Need change in attitude (more pro-regional) to take Common Fisheries Policy forward
- Need more practical experience of fisheries authorities working together .... Learning by doing rather than talking at meetings
- Make use of ACS (Caribbean Sea Commission needs to be absolutely inclusive of all Caribbean) as a regional body for broader issues of EBM
- Need much more focus on land-based activities affecting water quality/or transshipment of hazardous waste
- Equity would mean considering compensation or perhaps exemption when a regional policy impacts one or more nations negatively
- Practical – refers to sub-regional bodies scaled according to issues at stake

- Consider portioning of pelagic resources in the Caribbean – and value resources at different trophic levels. Examine alternative uses for pelagic resources (e.g. commercial versus recreational fishing)
- Use all fora to push regional perspective after defining region(s) and sub-region(s) and how they fit into or adjacent to each other
- Establish management partnership with ICCAT to cover part or whole Western Atlantic; CRFM perhaps currently moving towards this.

*Who?*

Stakeholders are at various levels. Two main levels are:

- National level
  - Fisher folk organizations
  - Fisheries departments
  - Investors in the fishing industry
  - Other stakeholders
- Regional level
  - CARICOM countries
  - Non-CARICOM countries
  - Must include Venezuela and Latin American countries who share the LME resources as well as Martinique, Guadeloupe, Cuba, Puerto Rico, etc
- Also international level - ICCAT

### Vision element 3: Effective harmonized access and control

*Key actions*

- Common Fisheries Policy-It contains key elements to be addressed (elements of the vision).
  - Complete the creation of the Fisheries Policy in order to achieve this, but it is now a political mine field.
  - Points below are examples of the components that the policy would address, but note that there are others covered now and a draft is publicly available.
  - Recognize that it is now only for certain countries, so need to expand to non- CRFM countries, need to define region and sub-regions, and how they relate to each other.
  - Need to understand how political decisions are made and infiltrate the process.
- Consider including as components of Common Fisheries Policy:
  1. Licensing regimes
  2. Regional fishing boat registry
  3. Pay for license
  4. Quota allocation
  5. Capacity building – data collection information system CLME
  6. Enforcement measures work with drugs and enforcement agencies
  7. Complementing education and sensitization
  8. Observer programmes – bycatch – what constitutes bycatch?
  9. Vessel monitoring, satellite tracking
  10. Uniform gear agreement – enforcement - fines including for gear lost
  11. Foreign fleet policy

*Who?*

- CRFM (Caribbean Regional Fisheries Mechanism) + non-CRFM CLME (Spanish, Dutch, French)
- ICCAT
  - Atlantic wide stocks (tunas, etc) decisions rest with ICCAT
  - ICCAT is not in full EAF management mode at the moment although moving towards it  
However, RFMO and/or regional management arrangement oversees management of small tunas and tuna-like species. Example blackfin, dolphin and wahoo
  - RFMO should use EAF for all pelagics. Although management for smaller tunas will be entirely in their mandate provided stocks are within region only.
  - Advice based from EAF approach of RFMO level will be used and presented in the ICCAT for larger pelagics as well.
  - Although this approach only deals with large pelagics it will feed into all other wider ecosystem management.

#### Vision element 4: Healthy and productive social-ecological systems

*Key actions*

- Partnerships for regional and Australian-styled assessments include links to the Caribbean Sea Commission for monitoring and reporting (CLME project).
- Change harvesting practices, e.g. FADs need management and more thought on whether or not they are good
- Concern about a need to change harvesting practices is also an issue of the need to limit access and harvest
- More attention needs to be placed on the release of undersized fish through legislation and against bringing undersized fish to market
- Assess possible problem with lost and discarded gear
- By-catch wastage: extensive research to identify if there is a problem

*Who?*

- National fisheries departments - CRFM and through various other regional fisheries organizations such as ICCAT, Association of Caribbean States, OSPECA, etc.
- Note that in some countries some stakeholders are not fishers but investors in the industry. They have other means of income; therefore do not particularly care about health of ecosystem. They can always move to main source of income.

#### Vision element 5: Effective and responsible governance for ecosystem sustainability

*Key actions*

- Create a Caribbean Ecosystem Framework Agreement.
- Use existing guiding principles like:
  - Cartagena Convention –Specially Protected Area and Wildlife (SPAW):
  - Inter American Convention (IAC) on Sea Turtles (guiding principles)
  - IMO

*Who?*

- Caribbean Sea Commission (of ACS)
- IOCARIBE UNESCO e.g. via CLME project

## Vision element 6: Secure, social and economic opportunities

### *Key actions*

- A Common Fisheries Policy and a Caribbean Marine Ecosystem Framework Agreement would CONTRIBUTE TO securing and protecting pelagic resources (i.e., necessary but not sufficient)
  - Education and sensitization to change the mindset of all stakeholders
  - Fisheries and the sea no longer a “free for all” inclusive, stakeholder consultation and participation
- Who?*

- Regional implementing agency, presently CRFM, with the need to extend to a broader agency in the near future, for example WECAFC as first step

### 8.2.3 Reef Group

#### Vision Element 1: Environmentally educated public

##### Key actions:

- Through changes to the school curriculum
  - Assess current level of environmental education in school curricula
  - Environmental education must be a formal part of programme becoming increasingly complex and integrated throughout the school curriculum
  - Promote buy-in of Departments of Education
    - Develop teaching materials with a local emphasis and train teachers to use them
    - Convince Departments of Education of the need for environmental education, possibly through regional meeting of education ministers
    - Make wider use of CCA People and Corals book in primary schools
- Through public education
  - Make more use of the media (radio, talk shows, TV, newspapers)
  - Maintain a continued presence for the public and for politicians
  - Find out how to organize public awareness initiatives in every country according to the local socioeconomic context and utilise community groups that are most active whether geographical community or community of interest, e.g. churches and service groups
  - There is a wide variety of Caribbean-specific reef educational material available for the public, but cost of production and dissemination are prohibitive. NGOs are not inclined to spend money on these kinds of materials and need to be encouraged to do so. They need to be encouraged to spend money on distribution to make these resources available to everyone.

#### Vision Element 2: Quality information

##### Key actions:

- There is already a lot of information out there that needs to be made available through effective information systems. Many topic-specific systems are already developed or under development throughout the region. These need to be integrated at the level of metadata systems.
  - Including getting older data into digital formats
  - Metadata requirements (source, collection, date, etc.)
- There is also the need to gather new information to add to these systems
  - Review regional and national data needs to serve EBM and collect only data that are needed.
- Increase the capacity for data collection and processing of environmental and fisheries data

- Make better use of people in field to capture fisheries data including local NGOs and fishers co-ops
- Promote trust in sharing data
  - Where it is going and how it is to be used
  - Fishers will not share until they know its importance and how it will be used
- Make data more spatially related and visual for greater impact

### Vision element 3: Politicians serious about the environment with a will to manage

#### Key actions:

- Most politicians do not have knowledge of the areas that they are responsible for governing
  - Promote the establishment of environmental advisory panels comprising scientists, fishers, technical officers and public to advise politicians and to provide them with a transparent basis for their decisions
  - Influence politicians through peer pressure and through more effective lobbying
  - Empower civil-society to pressure politicians
    - This is linked closely to public awareness
    - Provide politicians with trips that will expose them to environmental issues
    - Polls in the environment ahead of the elections
    - Concerned entities should publish an environmental agenda before each election and ask contesting parties to address the issues in their manifestos – this can be a shared NGO action
    - Pursue valuation to put the environment in ‘financial’ terms
    - Utilise persons with access to political inner circles to influence politicians

### Vision element 4: Appropriate effective accountable governance

#### Key actions:

- Strong and participating NGOs to help alert people through media and to empower them to stand up for what they believe in.
- More advocacy forces government to listen - there is strength in numbers
- Get people to be ‘issue’ focused and to dissociate from party level politics
- Use formal multi-sectoral groups as a way of bringing issues into the open. It is difficult to ignore formally established groups and also provides a way that responsibility for a decision can be placed on the group
- Promote formal cross-communication between agencies that are responsible for EBM to develop regulatory mechanisms and legislation/tap into legal systems (e.g. US Coral Reef Task Force)
- Pursue international agreements and accountability to implement nationally within a specified timeframe.

### Vision element 5: Enforcement that works

#### Key actions:

- Review and update legislation, especially in regards to fines which are often too small.
- Place emphasis on building social capital for compliance (less on enforcers). This must include programmes that address root causes of infractions. Note that compliance is cross-linked with public awareness and participation

- Low allocation of resources, training, capacity of enforcers
- Pursue means of changing the fact that environment and fisheries are given low priority on national agendas for enforcement
  - Funding for enforcement and for training of enforcers is an issue
  - The judiciary including prosecutors often does not take these matters seriously and there is the need for them to be trained and encouraged to do so.
  - Streamline judiciary process for rapid effective prosecution such as through dedicated prosecutors attached to fisheries and environment departments (e.g. Belize).
  - Get all people 'on the water' involved and make it easy for people on the sea to be the eyes and ears for enforcement through simple direct anonymous reporting mechanisms.
  - Enforcement is more timely and fair
- Ensure proper interaction among functional arms of management and enforcement agencies at appropriate levels. This includes decentralising authority so that they can interact directly in the field without need to go up the chain for interaction. This will ensure maximisation of resources, e.g. Belize Joint Interagency Coordinating Committee. Interagency (JICC). Collaboration and interaction for enforcement should be formal and should include regular meetings. It may even be through a legally constituted body such as JICC.
- Education is essential especially in fishing communities and for fishers so there is peer pressure. This needs to cover not only fisheries regulations but also environmental regulations
- Create demonstration sites in protected areas where enforcement is effective and can then be expanded.

#### Vision element 6: Stakeholders fully involved

##### Key actions:

- Conduct stakeholder assessments to identify and understand stakeholders. Define stakeholder relationships with each other and with the resource.
- Strengthen and support better stakeholder participation communication, education and information as well organised stakeholders will participate better. Build stakeholder capacity to promote cooperation and empower them for management of the resources, e.g. Punta Allen where fisher co-ops are now advisors, are well organized and own and manage the area. This entails involvement at multiple levels local to regional.
- Support regional fisher association networks to build capacity and engage fishers in policy making at the regional level. Build on existing structures (fishing organisations) for regional networking
- Pursue mechanisms that will facilitate equitable but limited access to resources that sees them as a commodity for the benefit of users and the public.
- Promote mechanisms to give stakeholders rights and ownership of resources, and develop fishing co-op's to allow them to participate effectively
- Pursue proper integration of regional markets to increase opportunities for fishers and ensure that benefits from fisheries resources are equitably distributed.

### Vision element 7: Only clean water to the sea

#### Key actions:

- Vigorously pursue national signing and implementation of LBS Protocol to Cartagena Convention
  - Identify point and non-point sources of pollution
  - Implement watershed management practices throughout the region
  - Promote best land and water use practices for domestic, forestry, agricultural users
- Install and/or upgrade sewerage systems and identify alternative solutions for current treatment practices
- Contain sedimentation and nutrient flows through improved building codes
- Integrate land and marine space-use planning
- Improving capacity of countries, e.g. infrastructure to combat pollution
- Promote agricultural and forestry land use that reduces pollution, e.g. organic agriculture

### Vision element 8: Healthy functional ecosystems

#### Key actions:

- Healthy functional ecosystems require legislation that is effectively enforced
- Promote the collection and analysis of scientific information that can form baselines on reef functionality
- Adopt a healthy reef indicator framework which is made public regularly
- Pursue advanced modeling of multi-species, predator/prey climate and species/habitat interaction developed to accomplish management learning towards healthy functioning ecosystems
- Formulate and implement integrated CZM plans
- Promote the adoption of building codes that are appropriate to sustain coastal habitats
- Implement coral reef restoration projects starting with surveys for identification of critical areas for restoration; target marine management areas

### Vision element 9: Secure and sustainable livelihoods

#### Key actions:

- Develop new livelihoods activities that either add value to existing products or make new non-extractive use of marine ecosystems.
  - New livelihood alternatives should utilise existing skills as far as possible.
  - Assist communities to obtain small loans and capacity building for new livelihoods
- Promote the concepts of 'best fishing practices' and of increased 'sustainable' efficiency in fishing through better technology that is more efficient but does not lead to overfishing.
- Assist fishers co-ops and associations to empower them to promote policy changes, obtain improved infrastructure and secure more equitable and reliable markets
- Pursue better control of dive activities that lead to conflicts with fishers

### Vision element 10: Caribbean-wide marine space use management

#### Key actions:

- Promote the assignment of spatial areas to organised stakeholder groups. This may also lead to passive reduction of fishing capacity (attrition process) as groups seek to maximize benefits from their areas.

- Promote networks of persons or groups involved in spatial management with a view to making it more widely understood and accepted, including providing information and principles on spatial management and information on ‘how to do it’
- Facilitate cooperation of neighboring countries to share responsibility for resource management
- Network existing MMAs to scale-up allowing for larger scale resource management in the Region
- Implementing the CBD and SPAW programmes of work
- Pursue resolution of maritime boundary delimitation issues

#### 8.2.4 Governance Group

##### Vision element 1: Sustainable financing

###### Key actions:

- Develop consensual, coherent long and medium term sustainable financing strategies through regular donor/ministerial for a, including finance ministers and those responsible for ocean and coastal resources ( current biennial World Bank forum with a selected group of region’s decision makers could be the basis for this by adding additional decision makers from the natural resources/environmental ministries )
- Identify problems and set priorities for comprehensive planning
- Specifically target priority funding proposals to donors and other financial sources that best matches their objectives to enhance chances of “good fit”. This requires building relationships with these providers so as to achieve that “fit”.
- Ensure approved programs have self-financing mechanisms built in (where appropriate)
- Increase the understanding and build support among stakeholders and decision makers of the long term linkages between ecological-economic values.
- Strengthened laws to ensure transparent use of funds and accountability, promoting more efficient use of funds.
- Establish a forum of relevant ministers, technical agencies, and donors driven by Caribbean champions.
- EBM included in national budgetary process using meaningful valuation of ecosystem goods and services.
- Build capacity to undertake environmental valuation
- Explore and where appropriate, establish user fees that are specifically collected and allocated for supporting EBM, i.e. not going into general revenues



**Some governance group participants**

##### Vision element 2: Inclusive participation

###### Key actions:

- Promote comprehensive public education programmes in the school curricula and to the general public
- Target participatory workshops at the community level
- Integrate coastal zone issues in school curriculum

- Build and implement co-management relationships where appropriate
- Develop information clearing house(s) to provide easy access and availability of information to multi-targeted stakeholders at different levels and capacities
- Ensure education programmes related to understanding EBM are a key component in long term strategic planning
- Adoption of integrated coastal/ocean management approach by government and other stakeholders
- Establish a legal requirement for government to engage in meaningful public participation
- Promote capacity development for public participation through education and awareness
- Build and promote multilingual communication
- Ensure cost of participating in decision-making processes does not generate an additional burden to any stakeholder, particularly the disadvantaged poor and vulnerable such as some resource users and rural/coastal community members
- Build capacity among stakeholders in how to effectively engage in the participatory process and recognize the value of trained facilitators

### Vision element 3: Comprehensive, coherent and consistent decision-making

#### Key actions:

- Provide decision makers with access to understandable interdisciplinary knowledge that includes scientific findings, TEK, socio-economics and environmental law
- Conduct stakeholder identification, analysis and provide clear guidance on avenues of involvement
- Implement transparent, documented decision making processes.
- Provide and agree on clear understanding of each stakeholders' roles and responsibilities.
- Regular monitoring and evaluation
- Build human and institutional capacity
- Impose adequate sanction for breaches in agreed upon rules so as to serve as an effective deterrent
- Establish models for multi-stakeholder collaboration that have legislative backing and adopts integrated coastal and ocean planning.

### Vision element 4: Coherent adequate legal frame work

#### Key actions:

- Expand law drafting capacity that recognizes and reflects linkages between the social, economic and environmental pillars of sustainability
- Evaluate, update, integrate, and consolidate laws at regional and national levels.
- Use/develop the appropriate science needed to support the addressing legal loopholes.
- Application and enforcement of existing laws.
- Environmental public advocacy program
- Harmonized law and policy in support of integrated marine planning.
- Incorporate sustainability in domestic laws
- New models of compliance and enforcement based on social norms, incentives, and alternative livelihoods, rather than only focusing on punitive measures.
- Gap analysis of science needs of legal regulations.
- Design legal and regulation suite that matches EBM goals and principles.
- Review best practices of other regions.

- Conduct gap analysis – adaptation and adaption of other models

#### Vision element 5: Individual motivation for stewardship

##### Key actions:

- Incorporate ‘polluter pays’ principle in environmental legislations
- Conduct meaningful valuation of coastal and marine goods and services and link the outputs to education and awareness
- Seek partnerships with other sectors in the assessment and management of risks e.g insurance, real estate involvement
- Provide subsidies for conservation, tax concessions, green taxation
- Expand environmental educational awareness in schools
- Ensure secure property rights in land and marine resources
- Ensure mechanisms in place for full public participation
- Promoting community based/co-management
- Identifying cultural values
- Free/subsidized education programmes

#### Vision element 6: Efficient multi-level networks & institutions

##### Key actions:

- Use of available technology to improve communication – hardware, education, awareness – funding for more IT use.
- Build regional collaboration between and among initiatives that support EBM.
- Establishment of an international ocean governance network of academic and training programs.
- Support data/information sharing through regional nodes.
- Use CLME Project as a platform to build networks and data/information sharing
- Document success stories/case studies analysis to provide support for multi-level collaboration.
- Projects should have incentives for data sharing
- Collect and disseminate data/information sharing success stories
- Reduce redundancy through greater donor/technical agency coherence.

#### Vision element 7: Enhanced social capital

##### Key actions:

- Implement community directed job creation, retraining e.g in enforcement, tourism
- Establish community fora for information sharing
- Establish programs for sustainable enterprises, e.g. revolving funds mechanism
- Provide education and awareness programs on rights and opportunities
- Legally requiring social equity and intergenerational equity
- Enhance quality of education to show importance of social capital to economic well-being and ecological integrity
- Provide and implement appropriate and feasible job creation programmes
- Legal requirement for projects to conduct comprehensive social and environmental impact assessment

- Adopt inter-sectoral planning
- Requirement for clear demonstration of social benefits from projects to be implemented
- Promote diversification in goods and services and add value to them
- Implement and adopt national sustainable development strategies
- Develop and implement strategies for ensuring equity in distribution of wealth from resource exploitation
- Mainstreaming gender issues in decision-making, policies and plans

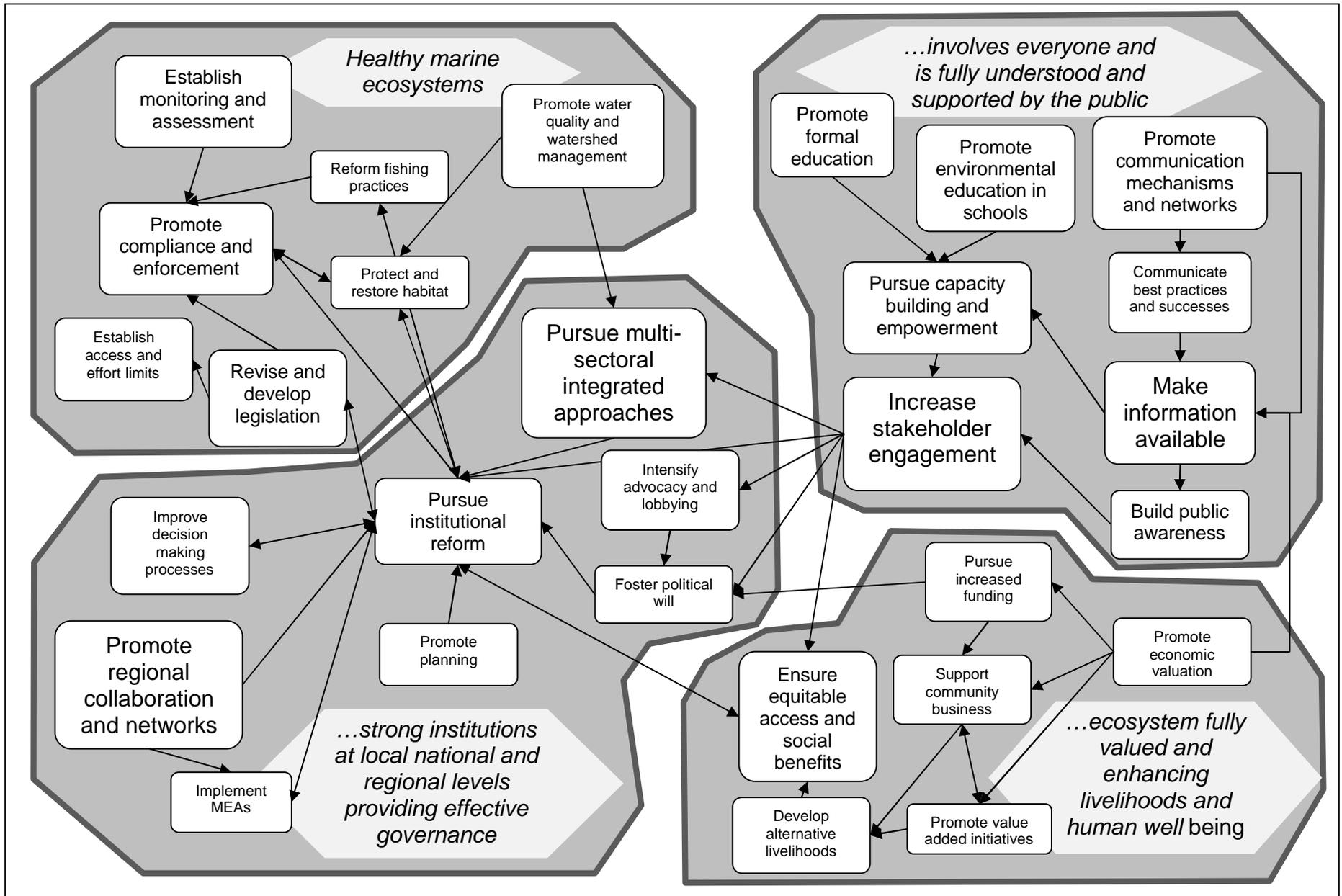
### **8.3 Analysis of World Café Strategies**

The actions documented by the four groups in the World Café sessions and discussed at the workshop close have been further organized and synthesized by the workshop organizers to highlight the network of strategic directions that emerged from the symposium. The strategies were derived by noting keywords from each of the (some 260) action ideas and sub-ideas emerging from the groups and presented above. The keywords were grouped into the 29 strategic directions shown in Table 9 where the number of dots indicates, in three levels, the frequency of occurrence of the strategic direction for each discussion group and overall. The most prominent strategies tended to occur across all four discussion groups. It is clear also from examining them that there are many linkages among them and in some cases progressions of strategies where some contribute to others. The network diagram in Figure 6 displays some key relationships among the 29 strategic directions. The size of the font indicates the overall degree of prominence in the discussions. The strategies have also been grouped to correspond to the key elements of the vision that emerged earlier in the symposium.

In the top left zone of the diagram are strategies relating to the vision of achieving healthy marine ecosystems. These include aspects of conventional fisheries management, showing that ideas for EBM in the Wider Caribbean are closely related and interwoven with ongoing efforts to improve fisheries governance. Here also we see the emerging emphasis on land sea linkages that are critical for coastal ecosystem health. In the top right zone of the diagram is a suite of strategies relating to formal education, training and empowerment of stakeholders. Here also are strategies relating to communication and networking leading to better information and ultimately to an increase in stakeholder engagement. In the bottom right zone, economic valuation links to strategies that support alternative livelihoods as well as equitability in access to benefits. At the bottom left and also extending into a central position are strategic direction that relate to improved institutions and governance through multi-sectoral approaches and other institutional reforms. These are both supported by and support many other strategies as indicated by two-way arrows. The strategic direction of improving regional cooperation stands out strongly and although it has few linkages, the reality is that most of the other strategic directions can be pursued at multiple levels including the regional level, which has emerged as a prominent feature.

**Table 9. Identified strategies for accomplishing the vision for marine EBM in the Wider Caribbean. (These are ordered according to the frequency with which they were featured in discussions, as represented by the number of dots assigned.)**

<b>Strategic component</b>	<b>Governance</b>	<b>Pelagic</b>	<b>Reef</b>	<b>Shelf</b>	<b>Overall</b>
Increase stakeholder engagement	???	???	???	?	???
Promote regional collaboration and networks	??	???	?	?	???
Make information available	???		???	??	???
Pursue multi-sectoral integrated approaches	???	??	???	??	???
Establish monitoring and assessment	??	?	??	??	??
Build public awareness	??	??	??	?	??
Promote compliance and enforcement	??		???	?	??
Pursue capacity building and empowerment	?	?	???	?	??
Pursue institutional reform	??	?	?	??	??
Promote communication mechanisms and networks	?	??	?	?	??
Revise and develop legislation	???	?	?		??
Ensure equitable access and social benefits	??	?	??	?	??
Promote environmental education in schools	??		??	?	??
Promote formal education	??	?	?	??	??
Improve decision making processes	?	?	??	?	?
Promote water quality and watershed management		?	??	?	?
Promote economic valuation	??		?	?	?
Pursue increased funding	??			?	?
Communicate best practices and successes	?	?	?	?	?
Intensify advocacy and lobbying	?	?	?	?	?
Promote planning	?	?		?	?
Implement MEAs		?	?	?	?
Reform fishing practices		??	?		?
Establish access and effort limits		?	?	?	?
Develop alternative livelihoods	?		?	?	?
Foster political will			??		?
Promote value added initiatives	?	?	?	?	?
Protect and restore habitat			?	?	?
Support community business	?		?	?	?



**Figure 6.** The network of strategic directions that emerged from the World Café groups as being needed to get from where we are towards the vision for marine EBM in the Wider Caribbean, key interrelations among them and their relationship to the main elements of the vision. Font size indicates prominence in the discussions in three levels

The network that emerges in the above analysis is not comprehensive, as is to be expected, given the limited time available for discussion in the groups. However, it is believed to reflect the strategies that the symposium participants thought were most critical for moving towards marine EBM in the Caribbean. Most notable is the strong focus on the human aspects of EBM in its broader context where it approximates the EAF of FAO. Stakeholder involvement, social justice, livelihoods, institutions and regional collaboration all appear to be the areas where most people would focus attention in order to achieve marine EBM in the Caribbean. Some may be concerned about the relatively low emphasis on science at the LME scale and ecosystem research. This should not be taken to mean that they are not seen as important, but rather that the institutional and social aspects were at the fore in this particular gathering of diverse stakeholders.

## **9 REFLECTION ON THE SYMPOSIUM**

Following the reporting in plenary from each of the groups on the deliberations and summarizing of the World Café results, participants had a brief opportunity to comment on how the session met their expectations, stimulated new ideas and insights and highlighted potential areas for advancing the goals of the symposium. This section reflects on some of the key themes that emerged from this plenary discussion. More specific feedback regarding an evaluation of the symposium itself is provided in the following section of the report.

There was a general sense that the process followed was useful and fostered a high degree of interaction that was valuable in addressing the needs and potential actions required to adopt and implement an ecosystem-based approach to the management of the Caribbean Sea. However, there was some degree of frustration expressed at not being able to move beyond the list of actions that was already well-known to establishing priorities and setting the strategic direction needed to get to the root causes of the problems and to tackle these.

Insightful ideas that emerged from the process included a clear need to focus on issues of governance as a root cause of the challenges confronting EBM adoption in the region and in that regard, to strengthen efforts to provide advice to policy makers in a clear and consistent manner, incorporating knowledge from both stakeholders and scientists in the advice given. This focus on governance was reached despite the fact that the symposium commenced with presentations based on scientific findings, illustrating the point that it was not scientific information or a lack thereof that was of primary concern. It was also mentioned that while fisheries was an important sector in efforts aimed at EBM, an intersectoral approach that includes key marine sectors that impact the marine environment, particularly tourism, shipping and oil and gas, should be included. Similarly, linkages to significant issues such as climate change and disaster mitigation and relief would ensure a comprehensive and coherent approach to these interrelated matters and establish closer ties with finance and development planning agencies in government.

A strong focus on the need to provide policy makers, stakeholders and the public at large with reliable economic data on the value of ecosystem goods and services also emerged as a new idea that could contribute significantly to building the case for EBM among decision makers.

On deciding on the means to move forward, participants suggested that the gathering of experts at the symposium represented a core group of knowledgeable, like-minded actors that had a responsibility to advance the progress achieved at the symposium. It was noted that the gathered experts had a degree of validity that could be instrumental in advancing efforts at EBM to the forefront in the region, although it was acknowledged that they were not the only ones to assume this responsibility.

Participants also focused attention on the need for a shared vision statement that could mobilize all sectors of society to pursue a shared goal, thereby facilitating the implementation of EBM in the region. It was suggested that lessons could be learned from others who have been successful in mobilizing forces to achieve a common goal, including terrorist networks who operate separately but share a common belief and mantra to guide their independent actions or successful businesses such as IBM, Nike and Xerox. It was agreed that the message from the symposium needs to build on what is common to all in the region, be easily understood, identified with by all and compelling. It needs to be repeated throughout the region and should engage the creative arts community. The message must resonate with fishers, politicians, tourists and the public equally and be visible across the region. While some attempts were made to suggest potential slogans, it was clear that crafting such a mantra would require more thought and professional assistance.

The organizers of the symposium closed the session by thanking all those who attended and contributed to the proceedings. Participants were reminded that the symposium report will be available for distribution by mid-February and that the presentations will be the subject of chapters in a published book, along with synthesis chapters capturing the discussions and recommendations for action from each of the four working groups at the symposium.

## 10 SYMPOSIUM EVALUATION

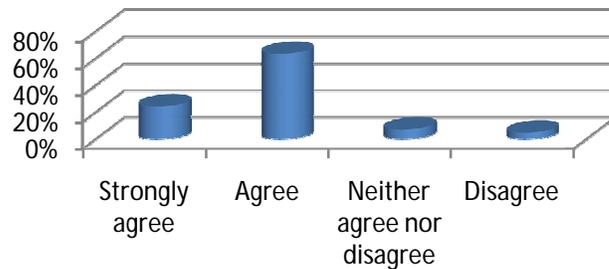
### 10.1 Participant's evaluation

A brief self-administered survey was provided to symposium participants on their final day. They were told on the survey form that it was anonymous and intended only to assist the organisers in evaluating the event. Also, for information sharing, a summary of the survey results would be posted on the symposium web site. In total, 43 participants filled out some or all parts of the survey. This yielded between 35 to 43 responses for each of the questions below. After each question is a chart of the results and brief explanatory text for the chart. The final question categorised the respondents by occupation, but since there was little difference in response by occupation, the result summaries in the charts are across all respondent categories.

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<p>1. To what extent do you agree with the statement below? (<i>circle the number of the response closest to your opinion</i>)</p> <p>The presentations, on the first day and start of the second day, provided me with enough background information to understand fairly well what marine EBM in the Wider Caribbean is about.</p>	<p>Strongly agree 5</p> <p>Agree 4</p> <p>Neither agree nor disagree 3</p> <p>Disagree 2</p> <p>Strongly disagree 1</p> <p>Do not know 0</p>
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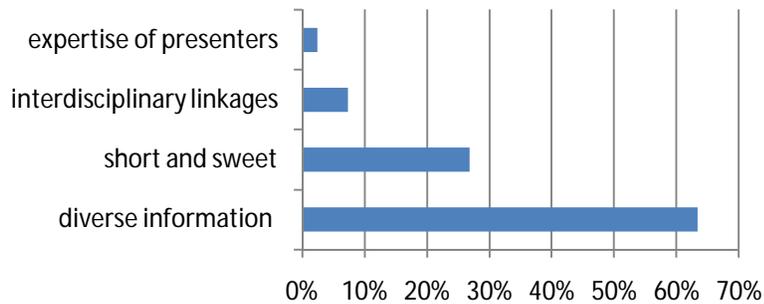
### presentations were enough background for symposium



There was clear agreement that the presentations provided the majority of participants with enough background information to understand fairly well what marine EBM in the Wider Caribbean is about.

### 2. What did you LIKE MOST about the presentation sessions?

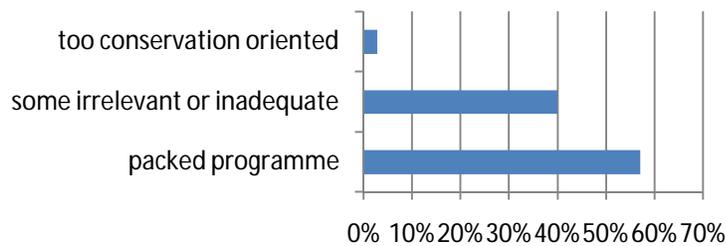
#### liked most about presentations



Most participants liked the diverse information contained in the presentations collectively. "Short and sweet" means that another large proportion liked that most of the presentations were brief but to the point in their relevance to marine EBM.

### 3. What did you LIKE LEAST about the presentation sessions?

#### liked least about presentations



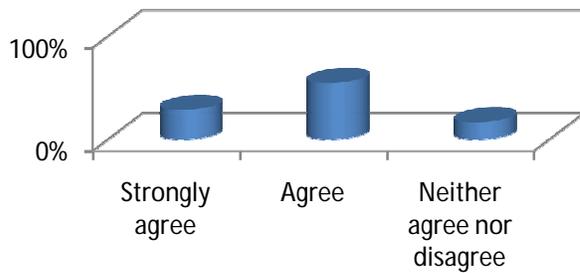
Participants did not like the packed programme that had presenters rushing and left too little time for discussion. Several thought that some presentations were less relevant and others did not meet the expected standard of content or visual appeal.

### 4. To what extent do you agree with the statement below? (circle the number of the response closest to your opinion)

The workshop sessions, on the second and last days, provided me with enough opportunities to contribute to developing the vision, and how to achieve it for marine EBM in the Wider Caribbean

- Strongly agree 5
- Agree 4
- Neither agree nor disagree 3
- Disagree 2
- Strongly disagree 1
- Do not know 0

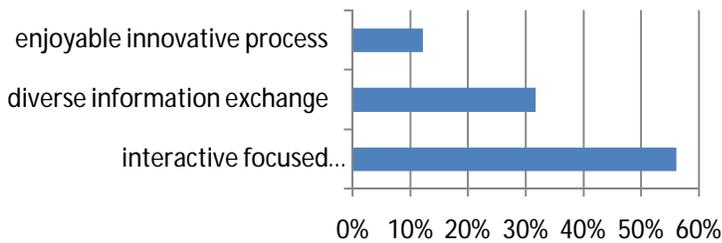
**opportunity provided to contribute to the vision and how to achieve it**



Most participants agreed that the symposium provided them with opportunities to contribute to the vision and how to achieve it.

5. What did you **LIKE MOST** about the **workshop** sessions?

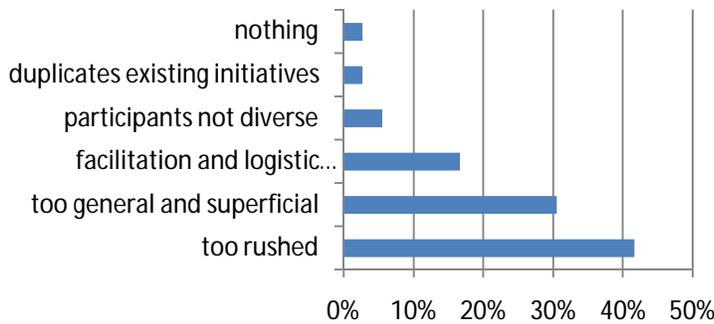
**liked most about workshops**



There was considerable overlap about what participants liked most, but generally the emphasis was either on participation or on information, although several mentioned both. An emphasis on the regional and multi-stakeholder aspects was common in all.

6. What did you **LIKE LEAST** about the **workshop** sessions?

**liked least about workshops**

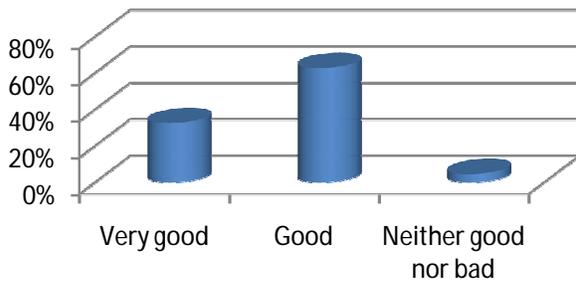


Participants found the visioning and World Caf  sessions to be rushed. A number also found the outputs to be too general and superficial, while a few less took issue with some facilitation and logistic problems.

7. In terms of quality of experience, as time well spent, what **overall rating** would you give the symposium as a whole? (*circle the number of the response closest to your opinion*)

- Very good 5
- Good 4
- Neither good nor bad 3
- Bad 2
- Very bad 1
- Do not know 0

### overall rating for the symposium

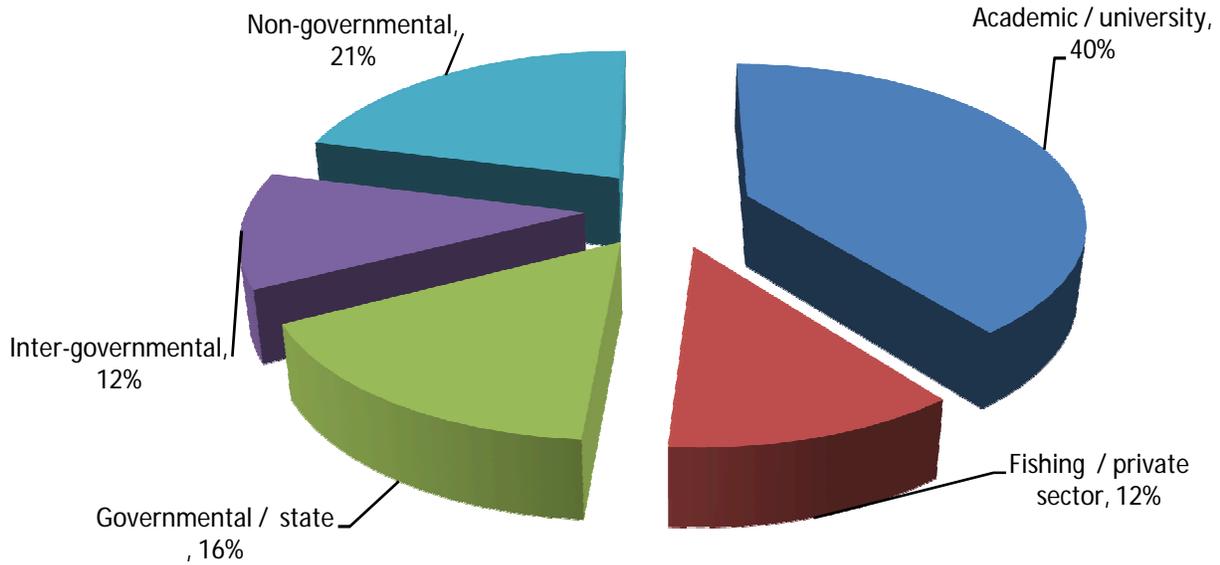


When all was said and done, the majority rated the symposium as being “good” in terms of quality of experience, and as time well spent. A fairly large portion rated it overall as being “very good”.

8. Which one category **best** describes your main livelihood or affiliation? (circle the number next to your response)

- Academic / university 5
- Fishing / private sector 4
- Governmental / state 3
- Inter-governmental 2
- Non-governmental 1

### occupations of participants



In conclusion, based on this evaluation survey, it appears as if the symposium was reasonably successful despite some areas in which improvement could have been made. The constructive criticism is much appreciated, especially given that this event was somewhat of an experiment in combining a typical programme with some innovations. The findings will contribute to a “learn-by-doing” approach and hopefully could be adapted by future organizers, should subsequent symposia find this programme to be useful.

## 10.2 Facilitator's evaluation

After the symposium, the four facilitators met to review the effectiveness of and participants response to the processes used in the meeting. Their views are summarized below.

### 10.2.1 Vision

- The facilitators agreed that the symposium participants demonstrated a willingness to work hard on the topics despite the fact that persons were organised into groups with no prior history.
- Participants would have liked more explanation up front about the stages of the process since it was new to most of them. They would have liked to know the whole the process from the beginning.
- Facilitators agreed that a meeting with the symposium planners would have been helpful to fully understand the thrust of the meeting and how the results were to be used. Nevertheless, they were comfortable in their roles and had a good grasp of the process they were using.

### 10.2.2 Assisting and resisting factors

- During the assisting and resisting factors identification process, there was some confusion about who the 'us' refers to in the question, "What is assisting us in achieving our vision?". 'Us' was identified as the Wider Caribbean region, but more specifically all the people in the room who would work toward the vision in their own capacity.

### 10.2.3 Achieving the vision – World Café

- The tablecloths were not the best for drawing because the paper tore too easily. All facilitators experienced a reluctance of participants to draw and doodle on the tablecloths or paper provided.
- In one group participants continually used their laptops. They looked up information on the Internet. They organised the Facebook in the room.
- One facilitator felt the session ended too abruptly, and the group, which had worked together for two days, ended without proper closure.

### 10.2.4 General

- Groups enjoyed the opportunity to talk about EBM with like-minded colleagues. As they are scattered and in difference places so they were grateful for the opportunity for convergence. All groups appeared to be engaged in the work and found the experience satisfying.
- Several participants were interested in using the processes used at the symposium in their countries at the community level
- All facilitators felt that time was too short. Because of this some of the group reflections planned for were missed. They felt that it would be better to not schedule so many papers on the same day as the group work. They felt that it was too big a shift to go from passive listening into becoming creative.
- All facilitators felt that it would have been better to allow a full day for group work. Because of limited time several of the processes were rushed.

### 10.2.5 How did the facilitators work as a team?

- Initial detailed preparation was very helpful to the facilitators.

- There was not much time for the facilitators to have contact during the sessions. At times it would have been useful to touch base.

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## APPENDIX 2: PROGRAMME

### MARINE ECOSYSTEM BASED MANAGEMENT IN THE CARIBBEAN: AN ESSENTIAL COMPONENT OF PRINCIPLED OCEAN GOVERNANCE

*Bus from Sunset Crest available for boarding both mornings at 7:45, departs for UWI at 8:00*

*Bus available 8:15, departs for UWI 8:30*

Time	Wednesday 10 <sup>th</sup> <i>- Pavilion all day -</i>	Time	Thursday 11 <sup>th</sup>	Time	Friday 12 <sup>th</sup>
8:30 - 9:00	Opening - Welcome, PVC Prof. Wayne Hunte, UWI - Welcome, Prof. Robert Fournier, Dalhousie University - Opening remarks, Hon. Dr. Denis Lowe, Minister of Environment	8:30 - 9:50	Presented papers 16-20 - <i>Pavilion</i> Moderator – Sherry Heileman	9:00 - 10:00	Achieving the vision – World Café session in groups - <i>Solutions Centre and CERMES</i>  <i>How do we get from here to where the vision is a reality?</i>
9:15 – 9:45	Symposium overview and expectations	9:50 - 10:00	Introduction to visioning - <i>Pavilion</i>		
9:45 - 10:30	Keynote 1 Keynote 2	10:00 - 10:30	<i>Break – Pavilion, and walk over to the Solutions Centre</i>	10:00- 10:30	<i>Break - nearby</i>
10:30 - 10:50	<i>Break - Pavilion</i>	10:30 - 12:30	Visioning in groups - <i>Solutions Centre</i> <i>What do you see in place in 10 years time when EBM/EAF has become a reality in the Caribbean?</i>	10:30- 12:30	Achieving the vision – World Café session in groups continues
10:50 - 12:30	Presented papers 1-5 Moderator – Patrick McConney				
12:30 - 1:30	<i>Lunch -Pavilion</i>	12:30 - 1:30	<i>Lunch - Pavilion</i>	12:30- 1:30	<i>Lunch – Errol Barrow Creative Centre</i>
1:30- 3:10	Presented papers 6 -10 Moderator – Lucia Fanning		Resisting and assisting factors Principles - <i>Solutions Centre</i> <i>What may keep us from or help us toward achieving the vision?</i>		Plenary - Groups report - <i>Shell Suite, Solutions Centre -</i>
3:10 - 3:30	<i>Break - Pavilion</i>	3:10 - 3:30	<i>Break - Pavilion</i>	3:10 - 3:30	<i>Break – Shell Suite</i>
3:30 - 5:10	Presented papers 11-15 Moderator – Milton Haughton	3:30 - 4:30	Plenary - Groups report - <i>Pavilion</i>	3:30 - 4:30	Plenary - Final discussion and closing - <i>Shell Suite, Solutions Centre -</i>
5:30 - 7:00	Mixer – drinks and light eats <i>- Verandah -</i>				

### APPENDIX 3: BREAKOUT GROUPS

<p style="text-align: center;"><b>A - Reef group</b>            Facilitator: Sharon Almerigi            Thursday: <i>Shell Suite, Solutions Centre</i>            Friday: <i>Upstairs, Solutions Centre</i></p> <p style="text-align: center;"><u>Members</u></p> <p>Adolfo Lopez            Armando Ramirez            Beverley Wade            Caroline Gooding            David Gill            Georgina Bustamante            Jeff Cramer            Judith Mendes            Kim Baldwin            Mitchell Lay            Nelson Ehrhardt            Phil Kramer            Richard Appeldoorn            Robin Mahon            Sergio Martinez            Silvia Salas            Vincent Sweeny            Winston Hobson</p>	<p style="text-align: center;"><b>B - Offshore pelagic group</b>            Facilitator: Toney Olton            Thursday: <i>Upstairs, Solutions Centre</i>            Friday: <i>Upstairs, Solutions Centre</i></p> <p style="text-align: center;"><u>Members</u></p> <p>Anderson Kinch            Chris Parker            Elizabeth Mohammed            Harold Guiste            Hazel Oxenford            Indar Ramnarine            Julia Horrocks            Kurt Baynes            Martin Johnston            Patrick McConney            Rufus George            Shelly-Ann Cox            Susan Singh-Renton            Tenile Grant            Vernelle Nicholls            Justin Rennie</p>
<p style="text-align: center;"><b>C - Continental shelf group</b>            Facilitator: Sherilene Collymore            Thursday: <i>Patio, Solutions Centre</i>            Friday: <i>Patio, Solutions Centre</i></p> <p style="text-align: center;"><u>Members</u></p> <p>Alejandro Yáñez-Arancibia            Bissessar Chakalall            Diego Gil            Katherine Blackman            Jen Cavanagh            Les Romahlo            Mike Butler            Nerissa Lucky            Paul Boudreau            Radjeskumar Asraf            Sherry Heileman            Steven Smikle            Terrence Phillips            Winston Rudder            Shamal Connell            Thor Ásgeirsson</p>	<p style="text-align: center;"><b>D - Governance group</b>            Facilitator: Sandra Husbands            Thursday: <i>Upstairs, Solutions Centre</i>            Friday: <i>CERMES</i></p> <p style="text-align: center;"><u>Members</u></p> <p>Bob Fournier            Ricardo Soto            Bruce Potter            Cesar Toro            David VanderZwaag            Einar Hjörleifsson            Gabriella Bianchi            Glaston (Chris) White            Jeanette Mateo            Kemraj Parsram            Lucia Fanning            Milton Haughton            Peter Schuhmann            Don Logan            Sarah MacIntosh            Wesley Clerveaux            Winston Anderson</p>